

Women's Time Poverty: Differences by Family Structure, Employment, and Gender Ideology

Afshin Zilanawala

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Abstract

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Major changes in American families have influenced the ways in which women organize their work and family lives. The most dramatic change has been women's increased commitment to paid work which, as a result, has influenced women's time in household activities and childcare time. Population aging means working adults are more likely to care for their parents and older relatives. Changes in the workplace, including an increase in nonstandard employment and education related inequality in work hours and income, suggest a tension between work and family commitments for women facing a range of economic circumstances.

This interplay of work and family obligations results in a time crunch, or insufficient discretionary time after considering time in paid work, household activities, and caregiving responsibilities. Women who are particularly prone to experience time shortages from day-to-day responsibilities are single mothers who have to juggle work and household commitments with half as many adults to provide economic and caregiving support. Single mothers also lack the economic resources to purchase goods and services that may free up their time.

Literature on time deficits tries to capture time disadvantages using a construct called "time poverty"; however, there is a substantial gap in this literature because of the lack of focus on women and family structure. This dissertation seeks to fill this void in the literature by comparing time poverty metrics, examining differences in women's time poverty by family structure and work status, and investigating the extent to which gender attitudes predict women's time poverty.

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Dedication

This dissertation is dedicated to my parents, my husband, and Ashrafi Azad. Their sacrifices and unconditional love made it possible for me to pursue my aspirations.

Chapter 1: Introduction

American families have changed dramatically over the last half-century. Higher divorce rates and increases in non-marital childbearing mean that children are more likely to be raised by single mothers. In addition to changes in family life, women have increased their time in paid employment. Given these changes, women face competing burdens of employment, childcare, and household labor. Researchers and policymakers have generally focused their attention on the economic disadvantages for single parent families (Casper & Bianchi, 2002); however, it has been argued by some scholars that certain women also experience severe time deficits (that is, insufficient discretionary time after considering time spent in paid work and unpaid tasks) in their lives (Vickery, 1977). Women who are particularly prone to experience time shortages from day-to-day responsibilities are single mothers who have to juggle work and household responsibilities. The significance of investigating the susceptibility of women to time disadvantages lies in the fact that diminished leisure time is linked to negative health outcomes (Bittman, 2002).

Literature on time deficits tries to capture time disadvantages using a construct called “time poverty”; however, there is a substantial gap in this literature because of the lack of focus on women and family structure. Family structure, relationship types, and employment status are likely to affect the time resources of women as partners may provide economic support and help with household responsibilities (Bianchi, Robinson, & Milkie, 2006; Casper & Bianchi, 2002), or they may increase demands on women. This dissertation seeks to fill this void in the literature by examining women’s time poverty by family structure and employment. The dissertation is comprised of three empirical chapters, each of which is intended to stand alone.

Chapter 2 capitalizes on a recent time diary dataset, the American Time Use Survey (ATUS), to examine different time poverty measures commonly found in the literature. I present time poverty rates by family structure using three different measures. I attempt to adjudicate across measures and choose a more intuitive measure to examine time poverty rates in the context of social roles—worker, partner, and parent. My analyses also consider differences in time poverty rates by income quintile. Lastly, I conduct multivariate analyses, stratified by family structure, to investigate the correlates of time poverty.

The findings from *Chapter 2* demonstrate that the roles of worker and parent yield some of the highest time poverty rates for women. This finding motivates the analyses in *Chapter 3*. I use the ATUS in *Chapter 3* to investigate the heterogeneity of discretionary time deficits among time poor mothers by family structure and employment status. Previous literature in this area is scant and is either outdated or does not focus on the American context. I use box plots to uncover differences in the median discretionary time deficits and the dispersion of these deficits. The focus of the analyses is to examine differences in time deficits among married, cohabiting, and single mothers. Additionally, I ask if there is variation in time deficits among single mothers (that is, mothers who are not married and not cohabiting with a partner) by their household living arrangements. This chapter also investigates differences in time deficits among mothers who are in the bottom income quintile and are time poor. Focusing on mothers who are economically constrained is important, because they are the least likely to purchase goods and services in order to free up their time. The combination of time *and* economic constraints may exacerbate mothers' time deficits, relative to mothers in the full sample. I examine the combination of these disadvantages to see if any family structure differences exist.

Chapter 4 builds on the gender ideology research, which has primarily focused on examining the association between gender ideology and one or two types of unpaid family work. Gender ideology is a significant lens through which individuals understand their roles within relationships as well as structuring their lives as a whole. I use data from the National Survey of Families and Households and examine the association between couples' shared and differing gender ideologies and women's time poverty. I complement the NSFH analyses and use the ATUS to examine the association between women's earnings share (a proxy for gender ideology) and women's time poverty. Analyses are conducted for all women and subsamples of couples, which consist of childless couples, couples in which both spouses are full-time workers, and couples in which both spouses are dual-earners.

In the concluding chapter, I provide a brief summary of findings from each chapter and discuss areas of future research.

Chapter 2. Women's Time Poverty: Differences by Family Structure, Parenthood, and Employment

Abstract

Time poverty is the result of a disproportionate amount of time spent in paid work and household and family caregiving responsibilities. Individuals who have less leisure or discretionary time are more likely to experience negative health outcomes. This chapter examines commonly used time poverty measures to investigate differences in time poverty rates for women in the context of their social roles—worker, partner, and parent. I use data from the 2003-2010 American Time Use Survey (ATUS). This analysis reveals the near equality between three different measures of time poverty. Using the more intuitive residual measure, I find employed mothers to face higher time poverty rates than employed women who are childless. There are minimal differences in time poverty rates across family structure. Families in the middle income quintiles suffer from the highest time poverty rates. Results suggest time as a salient dimension of inequality in the nexus of work-family balance.

Major social and demographic changes over the past several decades have resulted in an increase in women's labor force participation, higher rates of divorce, and in the prevalence of single parenting. These demographic trends mean children are more likely to be raised in a single parent household. Most research and policy for families focuses on economic constraints, especially those faced by single mothers. Very little research examines time shortages or constraints faced by some families.

Time scarcity is important to understand as it relates to women and their marital or partner status. Women, and especially mothers, face competing burdens of market work, household work, and family caregiving (Bittman & Wajcman, 2000; Mattingly & Bianchi, 2003). Single mothers may have the same time demands as married or cohabiting mothers; however, single mothers lack an additional adult who can offer economic and family caregiving support (Bianchi, Robinson, & Milkie, 2006; Casper & Bianchi, 2002; Vickery, 1977). Investigating time inequalities among women is especially germane due to its link with well being – women who have less discretionary time are more likely to face negative health outcomes (Bittman, 2002).

Literature on time use investigates time shortages by utilizing the concept of “time poverty.” Time poverty concerns itself with individuals who have insufficient time for rest and leisure, after time spent working (paid or unpaid) is taken into account (Vickery, 1977). The choice of a time poverty measure is made by taking the distribution of time in a particular domain, for example work hours or unpaid work hours, and calculating a percentage of the median time in that domain in order to create a time poverty threshold, or cut-off. An individual is deemed as time poor if their own time expenditure is below this cut-off. What is unclear, or

perhaps arbitrary, from the extant literature is which time domain to use in order to determine the time poverty line, or the cut-off.

A long line of research examines income poverty measures, but, as indicated above, research examining the phenomenon of time poverty is limited. And while the literature on time poverty has various measures for examining how little or how much discretionary time is available to an individual, it remains silent on how different time poverty frameworks compare to each other – if at all (Spinney & Millward, 2010). Previous time poverty research also does not scrutinize family structure differences. Consequently, our knowledge of how the distribution of social roles – worker, spouse or cohabiting partner, and parent – influences women's time poverty is sparse. Responsibilities associated with these social roles can be costly, both in terms of time and money.

In this study I examine whether key social roles – worker, spouse or cohabiting partner, and parent – influence a woman's time poverty. The combination of some or all of these characteristics provides a useful framework for understanding time constraints and discretionary time inequality faced by women. I utilize the 2003-2010 waves from the American Time Use Survey (ATUS) to answer the following research questions: (a) Using three measures of time poverty, what are the thresholds (or cut-offs?) for women by family structure and by number of children in the household? (b) Using these thresholds, what are time poverty rates by family structure and presence of children? (c) What are the time poverty rates for subgroups, classified by family structure, employment, age of the youngest child, and income quintile? (d) What individual and household characteristics predict time poverty, and are these characteristics the same for married, cohabiting, and single women?

Literature Review

Time poverty and its measurement

Time use research has been motivated by Becker's (1965) theoretical research on allocation of time between production-oriented activities (i.e. market work) and consumption-oriented activities (i.e. leisure time) within a given household. Becker argues households are utility-maximizing and distribute their time in generating income and unpaid activities, given a set wage rate. This final time allocation is assumed to be the best allocation for the household.

Becker's framework has been criticized for excluding information on a household's context and for using the household as the unit of analysis. Folbre (2004) criticizes Becker's perspective for excluding the role of institutions in households' time allocation decision making process. These institutions include the structure of the labor market, childcare resources, availability of social services, and social norms. Additionally, Folbre and others (Burchardt, 2008) critique the use of the household as a unit of analysis. A household's time allocation is a dynamic process involving a mix of bargaining, cooperation, and reciprocity among household members (Folbre, 1986). These complexities highlight the importance of using the individual as a focal point in time use analyses.

Most time poverty measures are constructed using one domain of time or combinations of time in certain activities (McGinnity & Russell, 2007; Bardasi & Wodon, 2006). Most techniques construct time poverty measures using "four kinds of time" (As, 1978). The first type of time is "contracted,": the amount of time explicitly indentured to paid work or educational pursuits, including related travel. The second kind is "committed" time: the amount of time dedicated to unpaid work such as housework, child care, shopping, or providing help to others. Third is "necessary" time: the amount of time vital for maintaining physiological health, such as time spent towards eating, sleeping, and hygiene. The fourth is "free" or "leisure" time: that is, time leftover after the other three kinds of time have been subtracted from a person's day. For

this reason leisure has been described as “residual” (Bittman, 2002). A threshold (e.g., 50 or 60 percent of the median), or cut-off, is calculated and an individual is determined to be time poor relative to this threshold.

An individual’s decision to allocate time to these four activities is constrained by a set of resources and responsibilities (Burchardt, 2008). The most obvious resource is time, which can be used to generate income in order to purchase goods and services. Other forms of resources include human and social capital. Human capital encompasses skills and experience which determine job opportunities, and social capital, such as a network of family and friends, can provide support for household tasks and caregiving without any financial expenditure.

These available resources are used to meet an individual’s responsibilities. Responsibilities include personal care and time for biological needs, such as sleeping and eating. Childcare and care for elderly relatives can be provided directly or purchased from the market. An individual may also have obligations to maintain resources. For example, a house requires an investment of time and/or financial resources to maintain its physical conditions (Burchardt, 2008). Investing in human capital means increasing education as well as maintaining good health. Spending time with friends and family to enhance relationships and expand social networks are all mechanisms to increase social capital.

Previous decisions about time use have important consequences on an individual’s available resources and responsibilities. Earlier decisions about getting married, having a child, attaining further education, and so on, have major implications on an individual’s time use. Time poverty research has considered these decisions to be fixed (Gershuny, 2003), and analyses are conducted on current circumstances. This practice is akin to income poverty research which

investigates how much income an individual currently has amassed, not what he *could have* earned.

In the context of time poverty, individuals are time poor because they lack sufficient time for rest and leisure after time spent working (paid or unpaid) is taken into account (Vickery, 1977). Time poverty measurements seek to capture the deprivation of discretionary or leisure time that results from a disproportionate amount of time spent working – either in the paid labor market or in unpaid domestic work. More time spent in market work or unpaid productive work means less discretionary, or leisure time, and thus greater “time poverty.”

Vickery’s (1977) seminal work on measuring time poverty was based on developing a method for incorporating the concept of time poverty into the construction of income poverty thresholds. Using the average household work hours among unemployed homemakers and other ad-hoc assumptions regarding nonmarket time, she calculated the substitutability of time and money near the income poverty line and derived a range of two-dimensional poverty thresholds using an early U.S. time budget study. Her findings indicate that a model that incorporates time consumption reveals alarmingly high rates of poverty – particularly for single parent households – but it also defines more accurately the resources and choices available to various types of households.

Time poverty research has since expanded to consider several relative time poverty measures. As opposed to making judgments or assumptions about required time in certain activities, relative measures consider the social context and make comparisons to other individuals in a given setting. This approach mimics the measurement of relative income poverty (Townsend, 1979), in that, those individuals whose discretionary time is considerably lower than the average or median person are deemed to be incapable of participating in civic, social, and

leisure activities (Bittman, 1998). Relative time poverty measures generally apply a relative threshold, which is defined as 50 or 60 percent of the median time in certain activities, in order to identify individuals who are time poor.

One example of a relative time poverty measure is using a residual measure, which is constructed by subtracting paid and unpaid work time and time in biological activities from 24 hours. Using this measure, Harvey and Mukhopadhyay examined differences in time poverty rates between single and dual parent Canadian families and found only single parents to experience time poverty (2007). Other researchers have used combinations of time domains to construct a time poverty threshold. For example, Bittman (2002) classified specific activities as leisure activities and measured time poverty using 50% of median leisure time. Bardasi and Wodon (2006) studied time poverty in Guinea. For their measurement of time poverty, they used a lower threshold of 150% of median time in paid and unpaid work (contracted and committed time), and an upper threshold of 200% of median time in these activities. Both Bittman (2004) and McGinnity and Russell (2007) measured time poverty using 60% of median uncommitted time, which included a combination of both necessary and leisure time.

Theoretical Frameworks

The theoretical perspectives that explain the differences in women's discretionary time emphasize marital, employment, and parental statuses. The time availability perspective posits levels of discretionary, or free time, are affected by one's own and other household members' supply of time to paid work and the demand for housework (Coverman, 1985). Family members who devote less time to market work have more time available for household labor and child care. Married or cohabiting mothers have the benefit of a partner who can share the burden of paid and unpaid work, while single mothers are at a disadvantage as they cannot share the

demands of employment and housework. In addition, single mothers have fewer financial resources to pay for childcare and other household responsibilities. The time availability perspective suggests single mothers suffer from greater time deficits and are more likely to be time poor than their partnered counterparts.

The gender perspective emphasizes that family work is not a gender neutral activity, and that mothers do not perform unpaid work because they have a comparative advantage; rather time use patterns are produced by unequal power relations between married men and women. Thus, women “do gender” within the household by taking on the burden of unpaid household labor. Marriage and childbirth are gendering activities that can solidify gender roles and the division of household labor (Thompson and Walker, 1995). Cohabiting mothers may experience time deficits similar to married mothers since they are primary caregivers and have a partner in relation to whom they can perform their “gender roles.” By contrast, single mothers’ lack of a romantic partner suggests that they do not participate in “gendered activities” As such, married or cohabiting women may have higher time poverty rates as compared with single women.

Empirical evidence

In the literature on time poverty, researchers generally consider the roles of partner, parent, and worker together when discussing time shortages. Studies find high levels of time deficit among employed, single parent households in Canada (Harvey & Mukhopadhyay, 2007; Douthitt, 2000). Bittman (2002) uses cross-sectional Australian Expenditure data and finds the combination of gender, long work hours, and family responsibilities to predict leisure time poverty. Full-time working mothers with young children are most at risk of being excluded from leisure. McGinnity and Russell (2007) find employment and caregiving (of adults and children) to be the strongest predictors of time poverty for women. Significantly, these studies do not

distinguish between married and cohabiting couples, are beset with small sample sizes, and are either not in the American context or are outdated. These studies also do not attempt to adjudicate among various measurement approaches, or explain how certain metrics provide more understanding of disparities between one and two parent families.

A recent study, using the American Time Use Survey, constructs a time poverty measure similar to Burchardt (2008) by calculating the median of the discretionary time distribution (Kalenkoski, Hamrick, & Andrews, 2010). They found that employed individuals and households with children had higher time poverty rates. Despite showing rates for various household structures, they did not consider marital status or family structure, which could explain the null findings of similar time poverty rates between households that differ by number of adults. The analyses in this paper build on their findings by investigating time poverty measures to assess time disparities for women facing a range of social roles.

Another set of literature examines women's leisure time but does not use time poverty metrics to investigate discretionary time inequality. Earlier studies that examine the relationship between marital status and mothers' leisure time suggest modest differences between single and married mothers' leisure time. The gap is driven mostly by employment status and the age of the youngest child (Sanik & Mauldin, 1986; Douthitt, Zick, & McCullough, 1990). However, these findings are based on small, nonrepresentative samples from the 1970s. More recent time diary studies report less leisure among married mothers versus their single counterparts (Mattingly & Bianchi, 2003; Bittman & Wajcman, 2000). These studies tend to have very small samples and do not scrutinize differences by family structure. Although these studies suggest family structure differences, they do not examine time shortages using a time poverty framework.

In sum, while the extant research provides provocative evidence that time use varies by marital status and suggests important mechanisms to explain a women's time poverty, previous time poverty research has been limited by outdated, non-representative data, and a lack of emphasis on family structure and the experience of women. Although the idea of "time poverty" is not entirely new, with studies utilizing different approaches and combinations of time in certain activities, the literature is nevertheless conspicuously silent on how these metrics compare to each other. Thus a question that poses itself (and which I seek to answer): are certain frameworks more important for understanding the disparities between one and two parent families, or do measures provide the same information? By examining three commonly used measures in the existing literature, this paper assesses the inequalities in discretionary time among women, particularly differences by family structure, parenting, and employment.

Method

Data

Time use data captures detailed information on the daily activities of individuals, including contextual information such as the timing, location, and with whom the activity was performed for a given 24 hour period. To analyze the relationship between time poverty and women's social roles, I utilize the pooled 2003-2010 waves of the ATUS, a nationally representative repeated cross-sectional continuous survey of the United States non-institutionalized population aged 15 and older. The survey respondents are drawn from households who have completed their final interview for the Current Population Survey (CPS). In all, the ATUS samples include 112,038 respondents, for whom there is a time diary, reflecting an average response rate of 58% (Bureau of Labor Statistics, 2010). Abraham, Maitland, and

Bianchi (2006) modeled nonresponses to the ATUS and found that busy people are no less likely to respond to the ATUS but that people who are less socially integrated are less likely to respond.

The primary analysis is on adult women's time use and their family responsibilities, and thus I exclude persons under 18 or older than 64 years of age ($N = 14,477$), all males ($N = 48,687$), and those for whom information on family structure and analysis variables was missing or who had data quality issues ($N = 8,979$). This results in an analytical sample of 42,047 respondents.

The time diary method provides a detailed account of the respondent's activities over the course of a 24 hour period, starting at 4:00 am on the previous day and ending at 4:00 am on the interview day. For each activity, individuals are asked for the start time, the duration, and with whom and where the activity took place. Essentially, this process provides a representative sample of detailed 'person days'.

Pooling waves of data is a standard practice in this research area and can also decrease the possibility of random disturbances in the data from year to year. In addition, supplemental data collected by the CPS provide demographic, economic, and labor force characteristics for the respondent and other household members. The merged data are accessed through the ATUS Extract System and are weighted to adjust for the sample stratification, distribution of diary days, and different response rates across demographic groups and days of the week.

Measures of Time Poverty

Three time poverty measures are created to examine differences in time poverty rates by key social roles of worker, parent, and partner. The three measures cover the breadth of empirical work reviewed earlier and build on the stratification of time based on a four group classification developed by As (1978). Each measure calculates time poverty in minutes per day.

I construct a residual time poverty measure by subtracting contracted, committed, and necessary time from 24 hours or 1440 minutes. Contracted time includes work and work related activities. Committed time is time in household activities and caring for and helping household members. Committed time that is given to children is exclusive to primary childcare. Primary childcare includes time in physical care, teaching, reading, and playing with children. The ATUS captures information on secondary childcare, or childcare done in conjunction with a primary activity. The time poverty literature does not make any considerations for secondary care, and thus the focus in my analysis is only incorporating primary childcare. In doing so, no time is double counted, but my analyses may underestimate mothers' time in childcare. Necessary time is time in personal care activities, such as sleeping and grooming, and eating and drinking. The residual, after subtraction, is discretionary time. In the same vein as Bittman (2002), Bardasi and Wodon (2006), and Burchardt (2008), a time poverty cut-off, or threshold, is calculated by taking 60% of the median discretionary time distribution. Women who have discretionary time below this cut-off are deemed time poor, and those at or above the cut-off are not time poor.

Informed by the work of others, I use two other measures to construct time poverty rates. The first measure is adopted from Spinney and Millward (2010) who construct a time poverty threshold (TPT) using one and half times the median of contracted plus committed time (paid plus unpaid work). This measure tries to capture individuals with high levels of paid labor and/or domestic work. Women who have paid and unpaid work time above the TPT are categorized as time poor, and those at or below this threshold are not time poor. Bittman (2004) and McGinnity and Russell (2007) provide a second time poverty model using necessary and leisure time, and calculating 60% of the median of this combination. Consistent with other research, leisure time includes activities such as watching television, socializing, entertainment, and sports and

exercise (Sayer, 2005). Women who have necessary and leisure time below this cut-off are time poor, and those at or above the threshold are not time poor.

In observing women's time poverty, one reason to caution against using an individual's reported sleep minutes in measures of time poverty is because sleep may mask the incidence of time poverty. A woman may draw upon her sleep time in order to allocate time to fulfill necessary tasks, such as paid and unpaid work. Previous studies are silent on this potential concern. I examine mean sleep, in minutes per day, by family structure and presence of children (Appendix Table 2.1), and find no clear evidence of sleep deprivation. The average time in sleep is over 8 hours. For reference, the National Sleep Foundation recommends 7 to 9 hours per day as optimal. For two reasons, I choose to impute a respondent's sleep time with 8 hours. One, the 'sleep' category in ATUS includes a range of terms that are not exclusive to physiological sleep (i.e. falling asleep, dozing off, getting up, waking up, etc.) but also refer to a transition state. It is likely that ATUS respondents overestimate their physiological sleep time in a 24 hour period. There is evidence that observed sleep duration in this sample is on average longer as compared to self-reported sleep times in other population based studies (Patel, Ayas, Malhortra, White, et al., 2004). Two, leveling the sleep time for all respondents decreases any possible measurement error. Going forward, all time poverty measures use 8 hours of sleep for all respondents.

Independent variables

Family structure is captured by responses that include (1) married—spouse present, (2) married—spouse absent, (3) widowed, (4) divorced, (5) separated, and (6) never married. Married women are those reporting 1. Separated/widowed/divorced women are defined as those reporting 2-5. Those who are not cohabiting and are not married are those who report 6.

Sociodemographic characteristics. Labor force status is indicated by full-time, part-time, or not employed. Full-time employment is considered to be 35 hours or more per week. In regression analyses, comparisons are to women employed full-time, the reference category. Education is recoded into four dummy variables: less than a high school degree or no GED, high school graduate or equivalent GED, some college, college graduate or higher. The college plus category is excluded as the reference category in regressions. Family income is measured from responses that range from (1) less than \$5,000 to (16) \$150,000 and over. For incomes up to \$15,000 the categories are in increments of \$2,500; for incomes between \$15,000 to \$40,000 the categories range in \$5,000; for incomes between \$40,000 to \$60,000 the range is in \$10,000; for incomes above \$60,000 the increments are between \$25,000 and \$50,000. Income is converted from these categorical responses to dollar amounts by assigning the midpoint of each category and representing income in thousands of dollars. The last category is topcoded to \$200,000. This practice follows previous research (Kendig & Bianchi, 2008). Age is a continuous variable ranging from 18 to 64 years of age. Race and ethnicity is recoded into four dummy variables for White, Hispanic, Asian, and Black. Non-Hispanic White is the reference category in the regressions.

Children's characteristics. The *number of children in the household* is measured using categories for none, one, and two or more; larger families increase the amount of care work and can affect one's time poverty. The *age of the youngest child* is measured using categories for 0-2 years, 3-5 years, 6-17 years, and no children; this is pertinent to test if mothers with younger children are more time poor, because younger children have the most binding time constraints, in that they require adult supervision 24 hours a day.

Analytic Strategy

For each time poverty measure, I calculate median minutes in the activities or time domains that are used to construct each measure. The medians are calculated for each subgroup of women defined by family structure and number of children. Second, I provide time poverty rates for subgroups defined by social roles—worker, partner, and parent. T-tests are used to test for statistically significant differences in the rates.

Logistic regression models are used to assess the relationship between women's experience of time poverty and individual socio-demographic characteristics, including age, race, education, income, and employment status, and child characteristics. Separate models are run for each family structure to explore how individual and household characteristics differ by family structure. Post-hoc Chow tests are computed to compare coefficients on individual and child characteristics across family structure.

Results

In Table 2.1, I show median minutes for each time poverty measure by family structure and by number of children in the household. In Panel A, I show median discretionary minutes using the residual measure. Across family structure, unpartnered women have more discretionary time than their partnered counterparts. Previously married women have an average of 28 more discretionary minutes and never married women have nearly 2 more discretionary hours per day than their partnered counterparts.

Among women with no children, cohabiting women have the least amount of discretionary time; they spend nearly an hour more a day on paid and unpaid work, and personal care than their married counterparts and nearly 1.3 to 2 hours more on these activities than their unpartnered counterparts. The relationship between having a partner or spouse and discretionary time is unclear. The addition of a partner could potentially provide another 24 hours to alleviate

household responsibilities, but this additional person may not necessarily offer any of their time. The higher levels of median discretionary time for unpartnered women may be explained by other adults (i.e. elderly parent or other relative) in the household who can provide time for housework.

As expected, mothers have less discretionary time than women without children and discretionary time falls as the number of children in a household increases. For married women, the difference in median discretionary time for women without children and women with one child is 75 minutes (523-448 minutes), just over 1 hour, and the difference between married women with no children and those with two or more children is 80 minutes (523-443 minutes), nearly 1.5 hours. The difference in median discretionary time between separated, widowed, or divorced women with one child and married or cohabiting women with one child is 32 and 30 more minutes, respectively. Thus, women without a partner are afforded nearly an extra half-hour of discretionary time. For never married women with one child, they are afforded an extra 2.5 hours in discretionary time relative to their married or cohabiting counterparts. For families with two or more kids, married or cohabiting mothers have more discretionary time (a median of 443 and 478 minutes, respectively) than women who were previously married (a median of 436 minutes), but less discretionary time than never married women (a median of 580 minutes). These differences may be the result of differences in preferences for child care.

The gap in discretionary time between married and never married mothers gives some evidence of the gender perspective. This theory suggests that the presence of a husband reduces the discretionary time available for mothers, because women do gender through housework. In analyses not shown, married mothers spend significantly more time in “female-typed” tasks

(cleaning, laundry, sewing, meal preparation, and clean-up) than never married mothers, at least 30 minutes more a day.

In panels B and C, I present median minutes in time domains used to construct the other two time poverty measures. In Panel B, I find partnered and previously married mothers expend more or nearly the same time in committed and contracted activities, or paid and unpaid work, than their childless counterparts. Cohabiting and separated or previously married mothers differ from married mothers in time in paid and unpaid work by no more than a half-hour. Never married mothers spend the least time in paid and unpaid activities, as compared to all other mothers. These patterns are replicated using time in necessary and leisure activities (Panel C). Mothers spend less time in personal care and leisure activities than childless women. Never married mothers spend the most time in personal care and leisure activities.

In Table 2.2, I show time poverty rates using three different measures by marital or partner status and number of children in the household. The residual measure has a threshold (i.e. 60% of the median) of 300 minutes (5 hours, not shown). Women whose discretionary time falls below this cut-off are labeled as time poor and those whose discretionary time is at or above this threshold are not time poor. The second measure uses 1.5 times the median of paid labor plus unpaid work (i.e. household tasks, child care, elderly care, etc) for the sample, which is 671 minutes (11.2 hours, not shown). Women with time expended in paid and unpaid work that exceeds this cut-off are deemed time poor, and women whose time in paid and unpaid work is less than this threshold are not time poor. Women who are time poor using this measure do not have enough time to allocate to necessary or personal care and leisure time. The third measure uses 60% of the median of necessary and leisure time (519 minutes; 8.7 hours, not shown), which includes time for personal care (eating, sleeping, etc) and leisure activities (voluntary and

religious activities, sports, tv, etc). Previous research using the Irish National Time-Use Survey finds a similar cutoff (8.7 hours) (McGinnity & Russell, 2007). Women whose necessary and leisure time falls below this level are time poor and women with time in these domains greater than the cut-off are not time poor. The implication with this measure is that women who are time poor not only lack time for personal care and leisure activities, but they are also spending most of their time in paid and unpaid work.

In Panel A, I use the residual measure and find that, among all women, unpartnered women have lower time poverty rates as compared to married women. Time poverty rates are higher for mothers than for women with no children. This is true regardless of family structure. Among childless women, never married women have the lowest time poverty rates relative to married women. In fact, partnered women have higher rates of time poverty than unpartnered women, giving some evidence for the gender perspective that the presence, not absence, of a partner increases time poverty rates.

For mothers, there is no evidence that time poverty rates increase with more children in the household. Although a priori we would expect a time burden with more children in the household, it is unclear if the results are conclusive without knowing the age and gender of the children. The only significant differences, relative to married mothers, are for cohabiting mothers with one child (lower time poverty) and for all never married mothers (lower time poverty).

The second measure of time poverty identifies women who are overworked in paid and unpaid work activities. This measure has lower rates across family structure and by number of children as compared to rates using the residual measure. Overall, unpartnered women have lower time poverty rates as compared to their partnered counterparts; a result similar to findings using the residual measure. Among mothers, never married mothers have the lowest rates of time

poverty as compared to married mothers. Thus, both the residual and contracted and committed measures find unpartnered women to experience the least discretionary time disadvantages. Both measures indicate that mothers are more time poor than childless women.

The third measure of time poverty uses the distribution of time devoted to personal care, biological needs, and leisure activities to categorize women who are time poor. Overall, the rates of time poverty are very low and there is no clear relation between number of children and partner status and time poverty rates. Perhaps this measure indicates that women, regardless of partner and parental status, acquire adequate time in personal and leisure activities relative to the median woman. It could be the case that the lack of variation in this measure is due to imputing for sleep. In analyses not shown, I calculate time poverty rates using reported sleep and find no family structure differences among all women. The time poverty rates are all below 6 percent. Although, I do find never married mothers to have significantly lower time poverty rates as compared to married mothers.

The residual measure is very intuitive, because it considers discretionary time as the residual; the time left over after netting out the things one has to do (personal care, unpaid work, and paid work). Table 2.2 finds little difference between the residual measure and the other two measures; thus there is no reason to privilege one metric over another. The residual measure is easily interpretable and will be used in all tables going forth. Nevertheless, there is an argument to be made for using the second time poverty measure that uses paid and unpaid time to calculate cut-offs. Previous empirical studies have highlighted the increasing workloads of parents, the time crunch of workers, and the importance of paid work as a badge of privilege (Bianchi et al., 2006; Gershuny, 2005). In order to highlight rates of time poverty among individuals with high

demands resulting from paid work and/or domestic work, I run supplementary analyses using the contracted/committed measure in the subsequent table that highlights all three social roles.

In Table 2.3, I examine the relationship between time poverty and the role of worker, partner, and parent. In the first panel, I focus on employed women. Using the residual measure, I find employed mothers to have higher time poverty rates than employed women without children. When examining the impact of the age of the youngest child in the household on the time poverty of employed mothers, it is unclear if age matters. For married women, the younger the child is, the higher the time poverty. The reverse is true for cohabiting women. For unpartnered women, the younger the child the higher the time poverty rate. The time poverty rate is nearly forty percent among married, previously married, and never married mothers whose youngest child is an infant. There are very little differences by family structure; a partner in the household does not yield significantly lower time poverty rates. Never married mothers have lower time poverty rates than married mothers when the youngest child in the household is at least three years of age. Thus, it may be that for partnered women gendering activities of housework and child care, in addition to employment, are all competing demands. Unpartnered women, who suffer from time poverty due to the lack of a partner to help with employment and household responsibilities, do not have to negotiate their time with a partner. In the net, the gain in time from an absence of negotiation is offset by any gains from partner resources.

In the second panel, women who are not employed and are childless have much lower time poverty rates as compared to mothers who are not employed. Among women with children, higher time poverty rates are associated with women whose youngest child is less than two years old. The time poverty rate is between 4 to 15 percent among women who are not employed whose youngest child is an infant. Interestingly, married mothers and previously married mothers

of infants have higher rates of time poverty than their never married counterparts. This anomaly may be due to differences in preferences for caregiving time.

With respect to the time poverty measure that is constructed from time in paid and unpaid work (in analyses not shown), the patterns found using the residual measure stay true in the alternative time poverty measure. Employed mothers have the highest rates of time poverty. Among mothers who are not employed, time poverty increases as the age of the youngest child decreases.

In Table 2.4, I explore the relationship between family income and time poverty. One would expect that lower income individuals have higher rates of time poverty, because they are unable to buy “time,” that is, buy goods and services in order to reduce hours in housework and childcare. However, a counter argument can be made that working long hours is a privileged position, because “busyness” is increasingly viewed positively (Gershuny, 2005).

In the first panel I examine mothers by family structure and income quintiles. Time poverty rates are overall higher among mothers than childless women (Panel B). The relationship between time poverty and family income is not linear. Married and previously married mothers in the second, middle, and fourth income quintile groups suffer from the highest rates of time poverty, as compared to their counterparts in the lowest income quintile. The time poverty rate among these mothers is between twenty to thirty-five percent. This suggests that despite the potential increase in purchasing power that comes with higher incomes, these mothers are not buying extra time and are most likely time inflexible. The time poverty rates of never married mothers do not change across the income distribution.

In Panel B, among childless women, there is a pattern of increasing time poverty rates from the lowest to highest income quintile. All childless women, with the exception of

cohabiting women, in the middle income quintiles are significantly more time poor than their counterparts in the lowest income quintile. This could mean that working more is related to higher income but not necessarily more discretionary time. For never married women, time poverty rates peak in the middle income quintile but then decrease with higher incomes. For this group, at least for women in the higher income quintiles, it may be that women are outsourcing activities in order to ‘buy’ time.

In analyses not shown, I take a closer look at the intersection of time poverty and income quintiles by examining only full time employed mothers. Overall, time poverty rates are higher, as expected with full-time employment, than the rates in Panel A of Table 2.4. Previous research has found the strongest influence on time poverty to be employment, above and beyond other individual and household characteristics (McGinnity & Russell, 2007). Remarkably, there are no significant differences across income quintiles within family structure; lower income quintile groups are just as likely to be time poor as middle to high income quintile groups. The time poverty rate is nearly one-third to two-fifths among full-time employed mothers.

Gershuny (2005) has argued that higher socioeconomic individuals privilege work over leisure more so than lower socioeconomic individuals. Aguiar and Hurst (2007) find some evidence of this hypothesis by examining time-use data for the last half a century. Although they examine leisure activities, defined in various ways, they conclude that lower educated individuals have had the largest increase in leisure time over their more educated counterparts. The time poverty measures used in this analysis are not comparable to Aguiar and Hurst’s measure, but the supplementary analyses focused on mothers who work full-time provide evidence for the lack of inequality in time poverty rates across income quintiles. Mothers who

work full-time are equally busy and experience the competing burdens of employment, parenthood, and, perhaps, a partner/spouse.

I turn to multivariate models predicting time poverty to examine to what extent variation in social role characteristics is associated with the experience of time poverty. In Table 2.5, I present the results of logistic regression models predicting time poverty by family structure. Similar to the descriptive results, part-time employment or not working is associated with significantly lower odds of time poverty, compared to full-time work. An increase in income is associated with a higher likelihood of time poverty, but only for married and previously married women. Lastly, with respect to children's characteristics, childlessness is associated with lower odds of experiencing time poverty. Mothers who have children younger than six years have higher odds of time poverty than mothers whose youngest child is at least six years of age.

I conducted further analyses to examine whether certain individual and child characteristics are statistically different by family structure (differences are highlighted in Table 2.5 with superscripts). Characteristics that consistently produce coefficients that are statistically different by family structure include employment status, age, being Asian, and presence of an infant in the household. These differences in point estimates do not change the substantive conclusion that the roles of worker and parent are the most salient predictors of time poverty.

Discussion

In this paper, I draw on the American Time Use Survey, a time diary dataset, to report on new evidence concerning the relationship between time poverty metrics and key social roles borne by women. Current literature on time poverty does not examine how different time poverty measures compare as far as discerning time disadvantages among families. In addition, there is limited focus on women and the nexus of their work-family roles.

Regarding how different time poverty measures compare to each other, I find the following: both “residual” and “contracted and committed” measures show never married women to have lower rates of time poverty as compared to married women. Both measures reveal greater time poverty for women with children than for women without children. Although this is suggestive of a virtual equality between measures, utilizing specific time domains to construct a time poverty measure – for example, paid and/or unpaid work time – may be more informative as far as the source of an individual’s time poverty; although, it is more intuitive to use the residual measure for describing the lack of discretionary time.

Descriptive and multivariate models reveal that children increase a woman’s time poverty. Mothers with infants are marked by the highest time poverty rates – nearly forty percent of these mothers (whether married, previously married, or single) are time poor. These findings are consonant with literature showing an increase in childcare time for mothers with preschool age children (Sayer, Bianchi, et al., 2004). Although simultaneous roles of worker and parent yield higher time poverty rates compared to employed women who are childless, there are minimal differences in time poverty rates across family structure. It may be that partnered women are in traditional relationships and are doing gender by increasing their unpaid work time, such as housework.

It is proposed by bargaining theory that there is an important relationship between household responsibilities and earnings share amongst partners. It is possible that women are unable to negotiate their housework time due to a lower relative income share. Women without partners – including never married and previously married women – are ipso facto unable to display a gendered performance. Thus, unpartnered women experience a gain in discretionary time resulting from the absence of a husband or cohabiting partner.

My findings are somewhat puzzling. Why are there little to no differences in time poverty rates among mothers by family structure and among employed mothers by family structure? If there are differences, the findings reveal never married mothers to experience the lowest rates of time poverty. These findings are surprising, because they are counter to that of existing literature on family structure and its role in economic and social inequality (McLanahan & Percheski, 2008). In this regard, qualitative work by Blair-Loy (2003) may be instructive as far as the near equality in time poverty rates among most mothers. She argues women experience a tension between two gendered schemas, the “family devotion schema” and the “work devotion schema.” The first represents the expectation that women are primary caregivers and managers of family, and the second framework captures women’s complete dedication to work, leaving little time for family care. Blair-Loy argues that earlier cohorts of women may have opted out of the family devotion schema, while later cohorts of women have tried to negotiate the two schemas by pursuing a career while also trying to meet the expectations of household and family responsibilities. Mothers from later cohorts are juggling to satisfy their careers and to fulfill a family schema that requires time for household demands and family involvement. Although Blair-Loy’s work does not focus on time poverty and her conclusions are limited to women in executive occupations, it is highly suggestive with regard to time poverty amongst all mothers, regardless of family structure.

Another perspective that may elucidate the underlying mechanisms between family structure and time poverty is the constraint of cultural and societal values and norms. In particular, ideologies about good mothering may influence caregiving time and time allocation in other activities. Despite the increasing acceptance of mothers in market work, they are still expected to be primary caregivers and not breadwinners (Riggs, 1997). Further, as the amount of

time needed to create a “good” childhood has increased (Arendell, 2001) mothers are expected to not only be experts on their children’s immediate emotional and physical needs, but also to be child development specialists – that is, from a long-term perspective – and to manage the various and complex dimensions of their children’s development and overall wellbeing. It may very well be the case that mothers’ time allocation is increasingly governed by normative notions about motherhood.

It is of significant interest that mothers in the middle-income quintiles suffer from the highest time poverty rates. Perhaps it is the case that middle-income mothers have the least time flexibility: their increase in employment hours contributes to their rise in time poverty as well as their rise in income; however, the increase in income is not sufficient for them to “buy” time through the purchases of goods and services.

It is also important to note that after conditioning on full-time employment, the differences in time poverty rates by income quintiles vanish. Further work would thus be needed to explore how income poverty and time poverty measures, together, can identify families who lack both of these scarce resources.

The challenge in operationalizing time poverty measures is considering that the state of being time poor may be a result of individual choice, and not out of necessity (Goodin, Rice, Bittman, and Saunders, 2005). That is, some individuals may choose to spend more time than necessary in paid and unpaid tasks and in personal care time. For example, they work longer hours to avoid poverty, or perhaps they spend more time in housework and personal care to meet the standards of social norms. The relative time poverty measures used in the current analyses do not elucidate to what extent individuals are time poor out of choice or necessity. Although, the

results do provide information on the extent to which individuals are time poor given a set of fixed constraints and resources, such as living with a partner, being a mother, or working.

It is crucial to consider how the design of the ATUS limits the comparisons made in this study. Only data at the individual level is available and only information on one household member's time poverty, on a given day. It may be that other members of the household are not time poor and are not making difficult tradeoffs with their time vis-à-vis important activities. Therefore, at the household aggregate level, it is an open question if the household or family is indeed time poor. This then also limits our ability to consider day-to-day variation in time poverty.

Although the ATUS provides a very large and representative sample of individuals, the data are cross-sectional and do not allow for causal analyses. It is difficult to comment on how changes in social roles – such as entering employment or exiting from a cohabiting relationship – affect a women's time poverty. Furthermore, the ATUS provides a small set of observed covariates and does not provide information on physical or mental health conditions of women and their children. Such factors could in themselves explain higher or lower time poverty rates, or they could influence one's selection into the role of worker, parent, or partner. The findings in this study are thus to be interpreted while bearing such limitations in mind.

In sum, the rich information on women's time use in the ATUS allowed for the investigation of differences in time poverty rates by various social role combinations. This research has revealed the significance of time consumption resulting from employment and caregiving roles. It is of course difficult to make judgments on the *quality* of discretionary time afforded to women who are time poor because of long work hours and child care responsibilities. It may be the case that such individuals are choosing to dedicate these hours in order to achieve

higher levels of income or work satisfaction, or they are choosing to focus their energies on spending time with their children. Despite being time poor – because they have less time available for leisure, rest, exercise, or socializing – these women may not be worse off than women who are “time rich” – for time poverty is just one of the many measures for ascertaining an individual’s level of wellbeing.

Table 2.1. *Median Minutes per Day by Family Structure and Number of Children in the Household for Three Time Poverty Measures*

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
Panel A: Residual Measure				
Full Sample	475	465	503	587
Number of Children in Household				
None	523	460	540	585
One	448	450	480	610
Two or more	443	478	436	580
Panel B: Contracted and Committed Measure				
Full Sample	455	477	422	420
Number of Children in Household				
None	400	480	382	535
One	485	480	455	397
Two or more	495	460	499	400
Panel C: Necessary and Leisure Measure				
Full Sample	855	845	890	880
Number of Children in Household				
None	905	860	930	890
One	830	820	855	876
Two or more	810	830	815	860
<i>n</i>	23,123	1,458	9,376	8,090

Note: Medians are weighted with sample weights. Sample sizes are unweighted.

Table 2.2. *Time Poverty Rates Using Three Measures by Family Structure and Number of Children in the Household*

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
Panel A: Residual Measure ^a				
Full Sample	25.2	24.0	23.3***	17.5***
Number of Children in Household				
None	22.3	23.4	20.4*	17.1***
One	28.4	25.4*	25.9	18.4***
Two or more	27.4	24.1	20.2	18.2***
Panel B: Contracted and Committed Measure ^b				
Full Sample	17.4	17.8	15.5***	14.2***
Number of Children in Household				
None	13.8	16.8	13.1	14.5
One	19.9	19.5	17.7	13.3***
Two or more	21.1	18.5	21.1	14.3***
Panel C: Necessary and Leisure Measure ^c				
Full Sample	1.1	1.0	1.1	1.2
Number of Children in Household				
None	0.8	0.5	0.8	1.1
One	1.1	1.1	1.1	1.0
Two or more	1.5	2.0	2.0	1.6
<i>n</i>	23,123	1,458	9,376	8,090

Note: Percents are weighted with sample weights. Sample sizes are unweighted. Significant results are in comparison to married women.

^aResidual Measure's time poverty threshold is 300 discretionary minutes. ^bContracted and Committed Measure's time poverty threshold is 671 minutes. ^cNecessary and Leisure's time poverty threshold is 519 minutes.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 2.3. *Time Poverty Rates by Family Structure, Employment, and Age of Youngest Child*

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
Panel A: Employed				
Full Sample	33.9	30.8	31.9*	23.3***
No Children in the Household	30.6	27.8	28.7	21.6***
Age of Youngest Child in Household				
Birth to Two Years	40.0	32.9	39.9	37.5
Three to Five Years	39.9	37.2	38.1	29.2***
Six to Thirteen Years	34.8	37.3	36.2	20.5***
Panel B: Not Employed				
Full Sample	6.9	3.9**	3.8***	2.5***
No Children in the Household	3.2	3.0	2.4	1.3**
Age of Youngest Child in Household				
Birth to Two Years	13.8	4.4***	14.8	6.3**
Three to Five Years	7.8	5.2	6.3	4.0*
Six to Thirteen Years	7.1	3.7	3.7**	2.1***
<i>n</i>	23,123	1,458	9,376	8,090

Note: Percents are weighted with sample weights. Sample sizes are unweighted. Significant results are in comparison to married women. All rates are calculated using the residual measure.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 2.4. *Time Poverty Rates by Family Structure, Presence of any Children, and Income Quintiles*

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
Panel A: Any Children in the Household				
Income Quintiles				
Lowest Fifth	19.0	19.9	21.7	18.5
Second Fifth	22.9*	25.0	33.6***	21.7
Middle Fifth	25.4***	25.6	35.6***	22.6
Fourth Fifth	31.8***	35.7*	32.3**	17.6
Highest Fifth	31.0***	27.1	27.7	9.1**
Panel B: No Children in the Household				
Income Quintiles				
Lowest Fifth	15.6	15.7	11.6	11.8
Second Fifth	16.3	14.9	21.8***	18.7**
Middle Fifth	21.8**	19.4	25.8***	21.9***
Fourth Fifth	24.3***	31.2*	31.2***	19.6***
Highest Fifth	28.9***	34.4*	41.4***	16.0
<i>n</i>	23,123	1,458	9,376	8,090

Note: Percents are weighted with sample weights. Sample sizes are unweighted. Significant results are in comparison to lowest fifth quintile within family structure. All rates are calculated using the residual measure. Lowest fifth quintile is 0-25,000; Second is 25,000-40,000; Middle is 40,000-60,000; Fourth is 60,000-100,000; Highest fifth is 100,000 plus.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 2.5. Odds Ratios from Logistic Regressions Predicting Time Poverty by Family Structure

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
<i>Individual Characteristics</i>				
Employment status (employed full-time omitted)				
Employed part-time ^d	0.37*** (0.02)	0.58** (0.14)	0.38*** (0.04)	0.28*** (0.04)
Not Employed ^{b, c}	0.10*** (0.01)	0.07*** (0.03)	0.07*** (0.01)	0.05*** (0.01)
Education (college plus omitted)				
Less than high school	1.23* (0.13)	0.91 (0.32)	1.06 (0.17)	0.95 (0.17)
High school graduate	1.03 (0.06)	1.17 (0.29)	0.86 (0.09)	0.95 (0.13)
Some college, no degree	0.96 (0.05)	0.85 (0.21)	1.07 (0.10)	0.87 (0.10)
Family income (in 10,000s) ^e	1.01** (0.01)	1.02 (0.02)	1.04*** (0.01)	0.99 (0.01)
Age (15 to 64 years of age) ^{a, c, e}	1.00 (0.00)	1.02** (0.01)	1.00 (0.00)	1.02*** (0.00)
Race (White omitted)				
Non-Hispanic Black	0.92 (0.08)	0.77 (0.23)	1.03 (0.10)	0.80** (0.08)
Asian ^{b, c}	1.51*** (0.16)	1.21 (0.69)	0.82 (0.20)	0.71 (0.19)
Hispanic	0.94 (0.07)	1.28 (0.35)	1.01 (0.12)	1.21 (0.15)
<i>Children's Characteristics (Six to seventeen omitted)</i>				
No Children	0.73*** (0.04)	0.60** (0.13)	0.67*** (0.06)	0.76** (0.09)
Age of youngest child				
Birth to two ^{c, d}	1.52*** (0.10)	1.10 (0.31)	1.74*** (0.32)	2.37*** (0.36)
Three to five	1.29*** (0.08)	1.25 (0.38)	1.35** (0.19)	1.20 (0.20)
Intercept	0.55*** (0.07)	0.27*** (0.11)	0.46*** (0.09)	0.26*** (0.06)
<i>n</i>	23,123	1,458	9,376	8,090

Note: Standard errors are provided in parentheses. All models are weighted.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

^aStatistically significant differences between Married and Cohabiting women.

^bStatistically significant differences between Married and Separated/Widowed/Divorced women.

^cStatistically significant differences between Married and Never Married women.

^dStatistically significant differences between Cohabiting and Never Married women.

^eStatistically significant differences between Separated/Widowed/Divorced and Never Married women.

Appendix Table 2.1. *Average Minutes of Sleep per Day by Family Structure, Number of Children, and Age of Youngest Child*

	Married	Cohabiting	Separated/ Widowed/ Divorced	Never Married
Panel A: Number of Children in Household				
None	502	514*	506	518***
One	506	525**	514	540***
Two or more	501	509	511**	543***
Panel B: Age of Youngest Child				
Birth to Two Years	510	522	520	539***
Three to Five Years	509	529	513	548***
Six to Thirteen Years	496	506	510***	540***
<i>n</i>	23,123	1,458	9,376	8,090

Note: The recommended levels are between 420-540 minutes (7-9 hours). Means are weighted with sample weights. Sample sizes are unweighted. Significant results are in comparison to married women.

* $p < 0.05$. ** $p < 0.01$. *** $p < .001$.

Chapter 3. Employed Mothers' Discretionary Time Deficits: Differences by Family Structure

Abstract

Time deficits are a result of a disproportionate amount of time spent in paid work and household and family caregiving responsibilities. Such time deficits are related to negative physical health outcomes. Time deficits may be influenced by family structure and household living arrangements, where other adults in the household (i.e. a spouse, a cohabiting partner, or another adult) have access to additional economic and time resources. Research to date does not examine differences in time deficits by family structure and neglects the diversity within single mothers' household structures. In this chapter I examine heterogeneity in working mothers' discretionary time deficits by marital status and living arrangements, focusing on time poor working mothers. I analyze the 2003-10 waves of the American Time Use Survey and find no family structure differences in time deficits for all mothers who work full-time. Unmarried mothers who live with another employed adult benefit from nearly two more discretionary hours per week than single mothers without another household earner. Among all low-income mothers who work full-time, single mothers have a higher time deficit than married mothers. My findings show that full-time employment imposes a high cost on mothers' discretionary time.

Introduction

The high prevalence of divorce and non-marital childbearing mean that many children reside in households headed by single mothers. Many prior studies have examined the economic constraints faced by single mothers but few have investigated how much single mothers face severe *time constraints*. Although competing burdens of market work, household work, and family caregiving are experienced by all mothers, for mothers who lack a partner who can provide economic and family caregiving support, time constraints may be substantial and consequential.

Studying time deficits amongst women is important because of the demonstrated association between time deficits and wellbeing (Bittman, 2002) and between discretionary time and ability to form strong interpersonal relationships and social networks (Mattingly and Bianchi, 2003).

Family structure, relationship types, and employment status are likely to affect the time resources of women as partners may provide economic support and help with household responsibilities (Bianchi, Robinson, & Milkie, 2006; Casper & Bianchi, 2002), or they may increase demands on women.

In this study I examine variations in discretionary time among time poor working mothers by family structure. I utilize the 2003-2010 waves from the American Time Use Survey (ATUS) to answer the following questions: (a) How much does discretionary time vary across family structure? Does living with a partner increase or decrease time poor mothers' discretionary time? (b) How much variance is there in discretionary time among single mothers? Is there variation in discretionary time by single mothers' household living arrangements? (c) How time-constrained are mothers in the bottom income quintile? Is the variance in discretionary

time greater or smaller for mothers who live with a partner as compared to unpartnered mothers? Among single mothers in the bottom income quintile, is there variation in discretionary time by mothers' household living arrangements?

Researchers have highlighted that single mothers experience a time deficit as a consequence of competing demands and half as many adults to provide economic support and share the household responsibilities. Although some single mothers live with other adults who are not romantic partners. Examining variation in discretionary time by single mothers' living arrangements helps to accurately portray and interpret differences in these mothers' time deficits.

Literature Review

Measuring time poverty

Time poverty refers to having insufficient time for rest and leisure (Vickery, 1977). Time poverty measurements seek to capture the deprivation of discretionary or leisure time that results from a disproportionate amount of time spent working – either in the paid labor market or in unpaid domestic work. More time spent in market work or unpaid productive work means less discretionary, or leisure time, and thus greater “time poverty.” Past studies on time-use operationalize time poverty as a relative measure. Typically, it represents 50 or 60 percent of the median available hours (after considering time in paid and unpaid work) in a specific population of interest. Individuals with available time below this cut-off are classified as time poor. (For further discussion on how resources, responsibilities, and constraints affect an individual's time allocation, see the background section in chapter 2.)

Most techniques construct time budgets on “four kinds of time” (As, 1978). The first type of time is “contracted”: the amount of time explicitly devoted to paid work or educational pursuits, including related travel. The second kind is “committed” time: the amount of time dedicated to unpaid work such as housework, child care, shopping, or providing help to others.

The third is “necessary” time: the amount of time vital for maintaining physiological health, such as time spent towards eating, sleeping, and hygiene. The fourth is “free” or “leisure” time: that is, time leftover after the other three kinds of time have been subtracted from a person’s day. For this reason leisure has been described as a “residual” (Bittman, 2002). Most time poverty measures are constructed using one or combinations of time in certain activities (McGinnity & Russell, 2007; Bardasi & Wodon, 2006). I construct a residual measure of time poverty, comparable to recent work in the literature, by subtracting paid and unpaid work time and time in biological activities from twenty-four hours (Burchardt, 2008; Kalenkoski, Hamrick, and Andrews, 2010).

Theoretical frameworks

Differences between mothers in their discretionary time result from marital, employment, and parental statuses. The time availability perspective assumes that a mother’s discretionary time is affected by her own and other household members’ expenditure of time in paid work and housework (Coverman, 1985). Family members who devote less time to market work have more time available for household labor and child care. Married or cohabiting mothers have the benefit of a partner who can share the burden of paid and unpaid work, while single mothers are at a disadvantage as they cannot share the demands of employment and housework. In addition, single mothers have fewer financial resources to pay for childcare and other household responsibilities. The time availability perspective suggests single mothers suffer from greater time deficits and are more likely to be time poor than their partnered counterparts.

The gender perspective emphasizes that family work is not a gender neutral activity, and that mothers do not perform unpaid work because they have a comparative advantage; rather time use patterns are produced by unequal power relations between married men and women. Thus, women “do gender” within the household by taking on the burden of unpaid household

labor. Marriage and childbirth are gendering activities that can solidify gender roles and the division of household labor (Thompson and Walker, 1995). Cohabiting mothers may experience time deficits similar to married mothers since they are primary caregivers and have a partner in relation to whom they can perform their “gender roles.” By contrast, single mothers’ lack of a romantic partner suggests that they do not participate in “gendered activities” As such, time poor married or cohabiting women may have less (or the same amount of) discretionary time as compared with single women – *not more*.

Empirical evidence of time deficits

In the literature on time poverty, two studies examine the extent of discretionary time deficits among time poor parents. One study conducted in Canada examines time poverty differences between single parent and two parent household groups and finds only single parents to experience time poverty (Harvey & Mukhopadhyay, 2007). The study reveals that, among time poor single mothers, the discretionary time deficits are similar in magnitude across subgroups defined by number of children and employment status. The second study, conducted utilizing an Australian sample, finds that only married mothers who work full-time and also have spouses who work full-time face the most severe leisure time deficits. The largest time deficits are found among mothers with young children. Only single mothers with an infant and who work full-time experience time deficits (Bittman 2002). Both of the studies, however, are limited by their empirical bases: while they examine time deficits by family structure, they do not distinguish between married and cohabiting couples. The studies do not examine differences in time deficits by unmarried mothers’ extended household living arrangements, despite the extant research showing the diversity in household structure for unpartnered mothers. Furthermore, these studies do not consider time deficits among mothers who are also economically constrained.

The combination of gender, long work hours, and family responsibilities has been shown to predict time deficiency (Bittman, 2002); it has also been shown that full-time working mothers with young children are least likely to have leisure time. One study, which makes use of an Irish time-use survey, finds employment and caregiving (of adults and children) to be the strongest predictors of time poverty for women (McGinnity & Russell, 2007). Of all the studies on time poverty, only one considers the US context (Kalenkoski, Hamrick, & Andrews, 2010) – all others consider the European and Australian contexts. The US-based study finds that employment and parenthood are associated with higher rates of time poverty. However, again attention to differences in family structure is not given.

Finally, older studies focus on differences in leisure time without using time poverty metrics to investigate discretionary time inequality. Such studies find modest differences between single and married mothers' leisure time, which are primarily driven by employment status and the age of the youngest child. However, these findings are based on small, non-representative samples from the 1970s (Sanik & Mauldin, 1986; Douthitt, Zick, & McCullough, 1990). More recent time diary studies report less leisure among married mothers as compared to single mothers (Mattingly & Bianchi, 2003; Bittman & Wajcman, 2000). Although these studies suggest differences in time use by family structure, they do not examine time shortages within a time poverty framework.

In sum, while existing research provides evidence that time use varies by marital status and suggests important mechanisms to explain an individual's time deficits, the generalizability of these findings are limited by outdated, non-representative data; a lack of emphasis on family structure and living arrangements; a lack of focus on the experience of women; and a near absence of research within the US context. Therefore, to date it is only possible to construct a

very partial understanding of the experience of time deficits for time poor mothers within the United States.

Data and Methods

The American Time Use Survey

This paper uses the American Time Use Survey (ATUS), a nationally representative sample of the non-institutionalized population, aged 15 and older. Respondents are phone-interviewed about their time use two to five months after completing the Current Population Survey (CPS). Respondents report their “diary day,” starting at 4 a.m. the previous day and ending at 4 p.m. on the interview day. Respondents report on what they were doing, with whom, for how long, and the location of their activities. The sample consists of interviews on all days of the week and all months of the year. The analyses in this paper pool all available waves, 2003-2010, obtaining a total sample of 112,038. Response rates were between 50-60% for all waves of data. Previous research on these response rates has shown that busy people are no less likely to respond to the ATUS, but individuals who are weakly integrated within their communities are less likely to respond (Abraham, Maitland, and Bianchi, 2006). All analyses use sampling weights to account for sample stratification, distribution of diary days, and different response rates across demographic groups and days of the week.

I focus on mothers’ time use and family responsibilities, excluding persons under 18 or older than 64 years of age ($N = 13,977$) and all males ($N = 48,687$). I focus on mothers since their time use is wholly different from non-mothers – due not only to the extra burdens of time in work and household responsibilities, but also in caregiving demands. The findings from chapter 2 demonstrate higher time poverty rates for mothers than for childless women. The caregiving demands and the higher time poverty rates for mothers motivate the focus on variation within mothers in this analysis I therefore lose 21,496 women who are childless. The focus of this

analysis is to investigate the extent of time deficits among mothers below the time poverty line. As a result of this sample restriction, I lose an additional 21,567 women who are not time poor. I lose a further 412 cases for whom information on family structure and analysis variables was missing or who had incomplete time diaries. Lastly, in my analyses examining married or cohabiting mothers, I exclude spouses or cohabiting partners who are not in the labor force since nearly all spouses or cohabiting partners are employed. This restriction reduces my sample by 365 cases. I also reduce my analytic sample by 608 mothers who are not employed. I make this reduction is due to the insufficient sample sizes to make family structure comparisons among all time poor mothers and among low-income time poor mothers. My final sample comprises of 4,926 time poor women who are 15 to 64 years of age and reside with at least one child.

Measuring Time Poverty in the ATUS

The literature on time poverty does not provide a consensus on time poverty measures and is silent on using reported sleep. The first chapter of my dissertation finds little differences in time poverty rates across time poverty measures and finds no evidence of sleep deprivation by family structure. Of the three measures investigated in the first chapter, the residual measure is found to be easily interpretable and intuitive to understand. Following these results, I construct a residual time poverty measure by subtracting contracted, committed, and necessary time from 24 hours or 1440 minutes. Contracted time includes work and work related activities. Committed time is time spent in household activities and in caring for and helping household members. Necessary time is personal care time, such as sleeping and grooming, and eating and drinking. I assign 8 hours of sleep for all respondents. Previous literature creates a time poverty cut-off, or threshold, by calculating 60% of the median of the population discretionary time distribution (Bittman, 2002; Bardasi & Wodon, 2006; Burchardt, 2008). This threshold is 300 minutes, or 5 hours, per day. Those individuals who have discretionary time below this cut-off are deemed

time poor, and those at or above the cut-off are not time poor. For time poor mothers I construct a time deficit variable. Time deficit is the gap, in minutes, from one's amount of discretionary time and the time poverty threshold (300 minutes). A mother with a smaller gap than a mother who has a larger gap translates into a smaller discretionary time deficit for the former, and vice versa.

Other measures.

Employment status is identified outside the diary day by using the labor force status of the time diary respondent at the time of the interview. A two category variable was created to indicate if, in the week preceding the ATUS interview, the respondent worked full-time or part-time. Full-time employment is considered to be 35 hours or more per week. I focus only on full-time and part-time working mothers, because the sample size of mothers who are not employed is too small to draw conclusions. *Family structure* was coded as married, cohabiting, or single. Single mothers are not cohabiting and include previously married, separated, and never married women. *Spouse's or cohabiting partner's employment status* is coded as 1 if, in the week preceding the ATUS interview, the partner did any work at all for pay. A six-category indicator of family structure/employment characteristics was created to combine measures of the mother's employment status, her marital or partnership status, and the employment status of the partner, if one was present.

Living arrangements are obtained from the household roster. A three category variable indicates if a single mother lives with other adults who are employed, lives with other adults who are not employed, or does not live with other adults. This variable is only constructed for single mothers (i.e. those who are not married or cohabiting with a partner). The living arrangements variable is then interacted with the single mother's employment status to generate a six-category indicator of living arrangements/employment characteristics. This variable construction follows

Kendig and Bianchi (2008) and captures the increased supply of economic and time resources that may come with residing with other adults, as compared to single mothers who reside alone (Sigle-Rushton & McLanahan, 2002).

Family income is measured from responses that range from (1) less than \$5,000 to (16) \$150,000 and over. For incomes up to \$15,000 the categories are in increments of \$2,500; for incomes between \$15,000 to \$40,000 the categories range in \$5,000; for incomes between \$40,000 to \$60,000 the range is in \$10,000; for incomes above \$60,000 the increments are between \$25,000 and \$50,000. Using this categorical variable I construct income quintiles for the full sample.

Analytic Strategy

I generate box plots to show the distribution of discretionary time deficits for time poor mothers. Box plots are a visual summary of the 25th percentile, median, and 75th percentile and allow for comparing distributions by groups. They are useful in the current analysis where I examine the spread of a large amount of time, that is, hours of discretionary time; box plots visualize the spread of discretionary time as well as the concentration of time at the low or high end of the distribution. The analyses in this study are focused on heterogeneity in this distribution of discretionary time. This is important to uncover if some mothers are concentrated in the high or low end of the discretionary time distribution, or if all mothers have the same distribution. Examining these differences and similarities among mothers in this distribution can potentially reveal which groups suffer the greatest time deficits.

I first analyze the dispersion of discretionary time deficits for all time poor mothers by their employment status. Second, I focus on single mothers and examine whether discretionary time deficits vary by employment status and living arrangements. Finally, I investigate discretionary time deficits for mothers in the bottom quintile of the income distribution.

Heterogeneity in Discretionary Time Deficits by Family Structure and Income

The sample includes women 15 to 64 years of age who reside with at least one child and who are time poor. Among the 4,926 mothers in the analytic sample, single and cohabiting mothers are younger, less educated, and have a lower household income than married mothers (Table 3.1). Single mothers are more likely to be Black and Hispanic as compared to married mothers. These family structure differences are statistically significant and are consistent within employment groups (i.e. full-time and part-time status).

Figure 3.1 illustrates the dispersion in discretionary time deficits by mother's employment and partner status for the full sample. The scale indicates the least time deficit to the most time deficit, in minutes, moving from left to right. The left and right edges of the shaded box represent the 25th and 75th percentiles of the discretionary time distribution, respectively, and the middle band represents the 50th percentile. The spacing between the percentiles indicates the degree of dispersion and skewness in the distribution. The lines extending from the box start and end at the minimum and maximum values. Mothers are grouped by their employment status and then by family structure.

Among all mothers in the analytic sample, full-time working mothers have the highest median discretionary time deficits and the largest dispersion in time deficits as compared to all other workers (with the exception of cohabiting mothers who are not employed). Part-time working mothers have lower median deficits and a narrower distribution of deficits than full-time workers. Among full-time workers, there is no evidence of heterogeneity in discretionary time deficits by family structure. The median discretionary time deficit differs by, at most, 15 minutes. The 25th percentile and the 75th percentile are also very similar across family structure. Among part-time workers, cohabiting mothers have a larger range of discretionary time deficits. The median discretionary deficit for cohabiting mothers who work part-time is 20 to 40 minutes

higher than that of single and married mothers. This amounts to between 2.5 and 3.5 hours less discretionary time per week compared to single and married mothers, respectively.

Many single mothers live with other people who may influence their discretionary time deficits. In Figure 3.2 I examine whether single mothers' discretionary time deficits vary by their living arrangements. Single mothers who work full-time have the largest variation in their time deficits and the highest median time deficits as compared to part-time workers. Among full-time workers, single mothers who live with another employed adult in the household have a median discretionary time deficit of 80 minutes per day. On the other hand, single mothers who live alone or with another adult who is not employed have close to 16 minutes (per day) more in deficit. Living with another employed adult affords single mothers with nearly two more discretionary hours per week than their counterparts. Among part-time workers, mothers who live alone have the lowest median discretionary time deficit, while their counterparts who live with other household adults face deficits of 10 to 15 minutes more. However, the distributions of deficits among all part-time workers substantially overlap.

In Figure 3.3, I focus on all mothers in the analytic sample who are in the bottom income quintile. These mothers are of particular concern as they are economically constrained and therefore are less able to purchase goods and services in order to decrease their discretionary time deficit. I would therefore expect time deficits for these mothers to be larger than for the entire sample of mothers. However, Figure 3 suggests a good deal of overlap in the distribution of deficits among income poor mothers relative to the entire sample of mothers (Figure 1).

Among low-income full-time workers, single mothers have the highest median discretionary time deficits, nearly 20-30 minutes more per day than their partnered counterparts. This amounts to nearly 2.5 less discretionary hours per week. Low-income cohabiting mothers

have the largest range of time deficits. The disparity between single and partnered mothers vanishes among part-time workers; the distributions of deficits for single and married mothers who work part-time are quite similar.

Similar to Figure 3.2, with Figure 3.4 I focus on heterogeneity in single mothers' discretionary time deficits by living arrangements. As in Figure 3.3, I focus on single mothers in the bottom income quintile. Among low-income single full-time working mothers, the presence of another household earner decreases a mother's median discretionary time deficit by nearly 15 minutes, as compared to full-time working mothers who live alone. Full-time working mothers who live with another adult who is not employed do not receive the same reduction in time deficit. For low-income single part-time working mothers, living with other adult household members, as compared to living alone, increases median discretionary time deficits by nearly 20-35 minutes per day.

Discussion and Conclusions

In this paper, I draw on the American Time Use Survey, a time diary dataset, to report on the discretionary time deficits of mothers, both single and living with a partner. The analyses in this paper focus on mothers' employment statuses and also examine mothers' time deficits within the bottom income quintile. Examining time deficits through a time poverty framework offers substantial advantages over the existing literature that has focused on economic constraints for one and two parent families. Current literature on time poverty does not focus on family structure in the US context, nor does it describe the time deficits among time poor mothers. Examining discretionary time deficits is significant as less leisure time is linked to negative health outcomes.

I show that full-time working mothers have the highest median discretionary time deficits and the largest dispersion in time deficits as compared to part-time workers. This finding is not

surprising since – all else being equal – as market work hours increase, the time available for discretionary time decreases. My finding is consonant with previous research; however, the decline in discretionary time associated with increased work hours is not an hour for an hour (Nock & Kingston, 1988). This is most likely because individuals can make tradeoffs in other activities, such as unpaid work. If women who bear the burden of managing and coordinating family life and family responsibilities give a lower priority to discretionary activities, an additional hour of paid work may easily crowd out their discretionary time.

Among full-time working mothers there is no evidence of family structure differences. Although gender and time availability perspectives offer opposite predictions to explain differences in time deficits by family structure, I would have expected the double disadvantage of *losing potential time* and *economic resources* provided by a partner to particularly exacerbate single mothers' time deficits. There are three possible explanations for the lack of family structure differences: While single mothers may have similar time demands as married mothers, and only half as many adults to contribute economic resources and caregiving time, single mothers do not have to negotiate their time or financial expenditures with a partner. In the net, the gain in time from an absence of negotiation is offset by any gains from partner resources. As discussed by Blair-Loy (2003) mothers juggle to maintain a satisfying career as well as a fulfilling family life with its various household demands. Although Blair-Loy does not look at time poverty, and her conclusions are limited to women in executive occupations, her work suggests that all mothers, regardless of family structure, try to privilege investments in their work, household and family responsibilities.

According to cultural values and norms surrounding “good mothering,” mothers are expected to be primary caregivers, despite the fact that employment is also normative among

women (Riggs, 1997). With the increase in time needed to provide a “good childhood,” the rise in expectation that mothers should be experts in their children’s developmental needs (Arendell, 2001) all contribute towards a decrease in mothers’ discretionary time – irrespective of family structure.

I find sizeable differences in time deficits among single mothers by their living arrangements. For single mothers who work full-time, the presence of another adult who is employed appears to operate as a facilitating factor by reducing time deficits. Because more work hours reduce discretionary time, all else being equal, it is not surprising to see advantageous effects on full-time working mothers’ time deficits. For such mothers who live with another employed adult can benefit from an increased supply of economic and/or time resources compared with mothers living alone or mothers living with adults who are not employed. And an additional income earner can translate into goods and services that free up time for mothers. On the other hand, for single mothers who work part-time, living with another adult, regardless of their labor force participation, appears to be a limiting factor. It could be the case that these mothers are caring for and helping other adults in the household – for instance, by providing physical care and/or assisting with medical needs.

Among full-time working mothers in the bottom income quintile, single mothers have the highest discretionary time deficits. These family structure differences are unsurprising given that single mothers at the bottom of the income distribution face the most disadvantages: they lack the economic as well as time resources of a partner and do not earn enough to support their families. These constraints could mean that low-income single mothers do not have options to curtail their own labor force participation or work hours. This lack of flexibility means it

becomes increasingly difficult for low-income single mothers to keep pace with their family and household responsibilities.

My results are subject to several limitations. First, the cross-sectional, ATUS dataset is limited by the fact that it does not allow me to determine whether family structure makes mothers more or less time poor, or whether changes in family structure – such as entering or exiting marriage – affect a mother's time deficits. Second, the ATUS does not provide any information on the social and emotional health of mothers and children. Some children require more caregiving time, and some mothers function better than other mothers. Our overall understanding of discretionary time deficits and its variation by maternal marital status and living arrangements would be enhanced with additional information on the health and wellbeing of mothers and children within the time use data. Third, the ATUS time diaries do not capture how respondents feel about their discretionary time. It may be the case that two time poor mothers have the same median discretionary time deficit, but one mother worries about undone work or family issues during her discretionary time more than the other mother. Fourth, one of the significant hypotheses for explaining variations in time deficits by mothers' marital status and living arrangements – that is, the purchase of goods and services that substitute for women's time – cannot be verified since the data do not contain measures of expenditure.

To conclude: This study utilizes a large sample of respondents interviewed using time diary methods in order to investigate discretionary time deficits and its variation among time poor mothers. My results provide evidence of the costly effects of employment on mothers' time and the significant time shortages of single mothers who are in the bottom income quintile. These findings are consistent with a policy agenda that would focus less on marital choices and

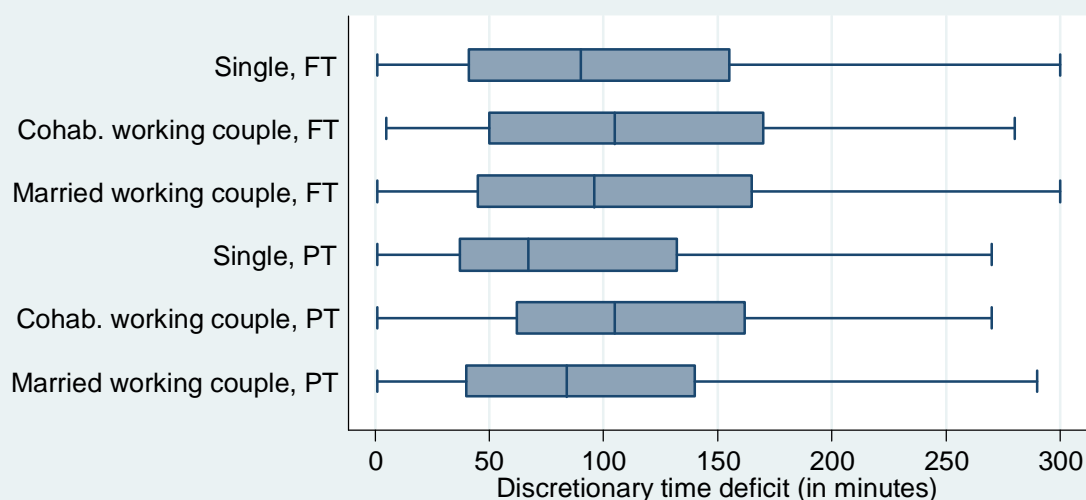
more on employment policies. Such a policy could reduce binding constraints and ensure adequate time for family caregiving as well as for activities that contribute to the overall health and wellbeing of all mothers.

Table 3.1. Descriptive Statistics of Time Poor Parents by Family and Employment Group (Means and Percents)

	Single, Full-Time	Single, Part-Time	Cohabiting Working Couple, Full-Time	Cohabiting Working Couple, Part-Time	Married Working Couple, Full-Time	Married Working Couple, Part-Time
<i>Individual Characteristics</i>						
Education						
Less than high school	10.8	23.0	12.2	30.5	6.3	6.9
High school graduate	30.1	34.6	43.8	33.8	22.2	23.5
Some college, no degree	37.4	31.9	33.3	33.5	27.8	28.0
College plus	21.7	10.6	10.7	2.2	43.7	41.6
Household income (in 10,000s)	4.4 (3.4)	3.7 (4.0)	5.3 (4.3)	3.8 (2.7)	8.7 (4.8)	8.1 (4.9)
Age (15 to 64 years of age)	36.1 (10.2)	31.9 (10.5)	33.1 (7.1)	32.2 (7.4)	38.6 (7.8)	37.8 (7.6)
Race						
White	47.2	47.3	70.7	57.3	70.9	82.2
Non-Hispanic Black	27.4	23.7	10.3	3.0	8.7	2.7
Asian	2.2	1.7	2.4	1.4	5.7	4.0
Hispanic	23.3	27.4	16.6	38.4	14.7	11.1
Number of children	1.74	2.1	1.78	1.71	1.81	2.00
Living arrangements						
Living without other adults	37.4	34.1	...	...	...	...
Living with other adults, one or more employed	48.6	56.1	...	...	...	...
Living with other adults, none employed	13.9	9.8	...	...	...	...
<i>n</i>	1,411	277	120	39	2,359	720

Note. Percents are weighted with sample weights. Sample sizes are unweighted. Standard deviations are presented in parentheses

Figure 3.1. Discretionary Time Deficits among Time Poor Mothers



Source: ATUS 2003-2010

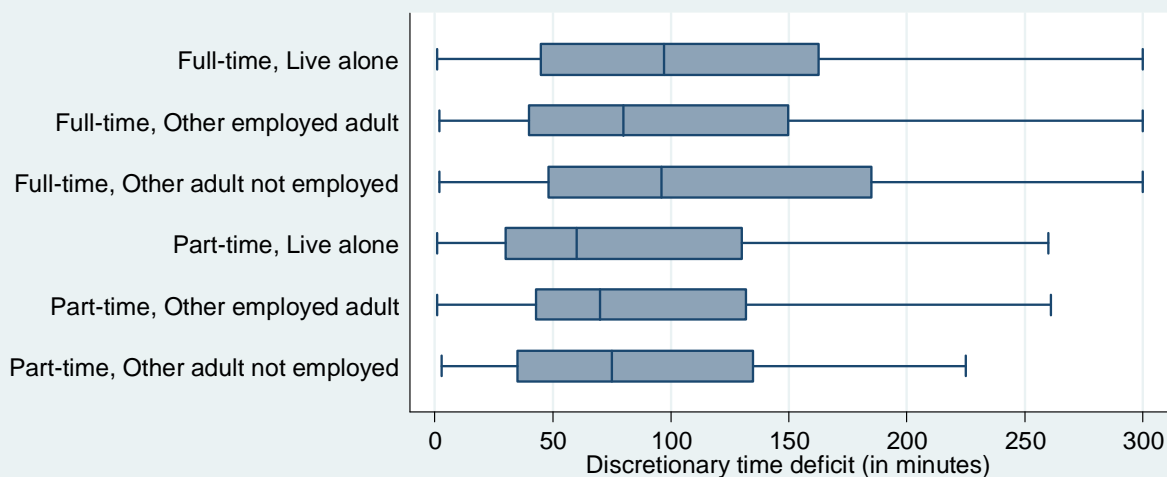
N = 4,926

Notes: Box plots show the 25th, 50th, and 75th percentiles of the discretionary time deficit.

The time poverty threshold is 60% of the population median discretionary time.

Sample is restricted to time poor mothers. Full-time and part-time status refer to mother's employment status.

Figure 3.2. Discretionary Time Deficits among Time Poor Single Mothers



Source: ATUS 2003-2010

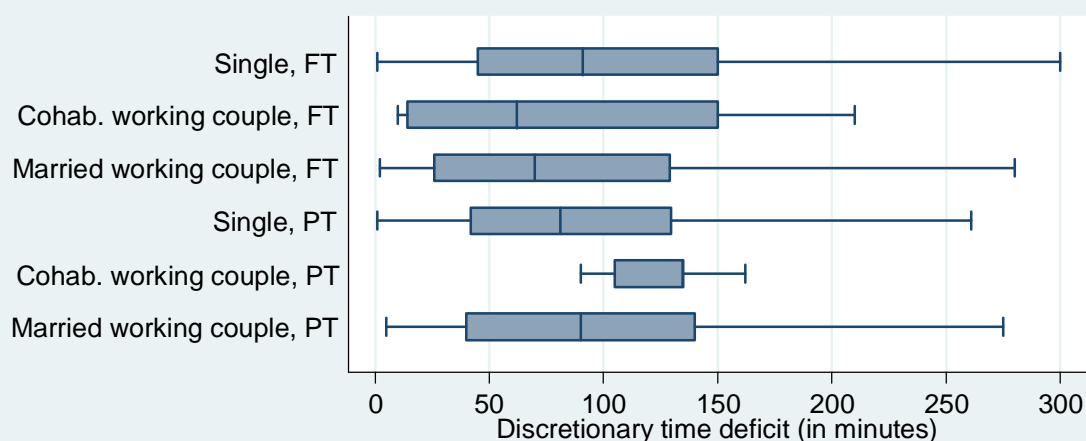
N = 1,632

Notes: Box plots show the 25th, 50th, and 75th percentiles of the discretionary time deficit.

The time poverty threshold is 60% of the population median discretionary time.

Sample is restricted to time poor single mothers. Full-time and part-time status refer to mother's employment status.

Figure 3.3. Discretionary Time Deficits among Time Poor Mothers in the Bottom Income Quintile



Source: ATUS 2003-2010

N = 703

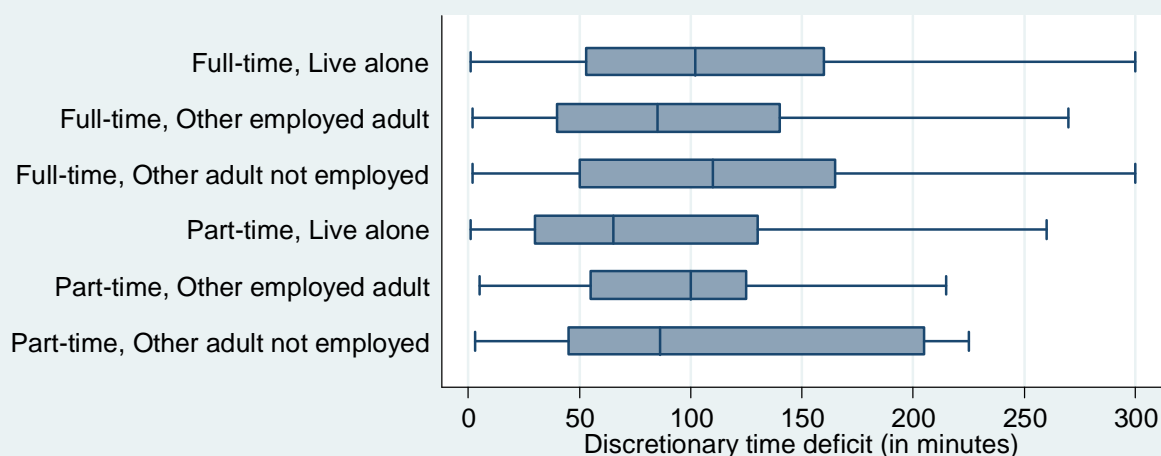
Income range: 0-25K

Notes: Box plots show the 25th, 50th, and 75th percentiles of the discretionary time deficit.

The time poverty threshold is 60% of the population median discretionary time.

Sample is restricted to time poor mothers. Full-time and part-time status refer to mother's employment status.

Figure 3.4. Discretionary Time Deficits among Time Poor Single Mothers in the Bottom Income Quintile



Source: ATUS 2003-2010

N = 524

Income range: 0-25K

Notes: Box plots show the 25th, 50th, and 75th percentiles of the discretionary time deficit.

The time poverty threshold is 60% of the population median discretionary time.

Sample is restricted to time poor single mothers. Full-time and part-time status refer to mother's employment status.

Chapter 4. Women's Time Poverty and Couples' Gender Ideology

Abstract

While prior scholarship has established a relationship between gender ideology and unpaid family work, such as housework and childcare, it is silent on the potential influence of gender ideologies on women's time constraints. Gender ideology serves as a lens through which individuals view their social world in general, as well as inflecting their decisions with regard to the division of labor within the context of a couple. Using data drawn from the National Survey of Families and Households and the 2003-10 waves of the American Time Use Survey, I assess whether couples' shared or differing gender ideologies influence women's time constraints. My findings reveal that gender ideology is not associated with women's time constraints, and there is no relationship between women's share of earnings and her likelihood of experiencing time deficits. My results do however show that the association between time deficits and women's share of earnings is *sensitive* to the measurement of time poverty, but *insensitive* to how the data were collected (that is, retrospective vs. time diary).

Introduction

In the last half century, the increase in women's labor force participation has been one of the most important trends in family life. As their commitment to work outside the home has increased, women – especially those with young children – have become more likely to juggle paid work, household labor, and unpaid family caregiving responsibilities (Bianchi, 2000). Such competing obligations at work and in family life make it important for us to understand the factors contributing most to women's time constraints.

Studying time deficits amongst women is important because of the demonstrated association between time deficits and wellbeing (Bittman, 2002) and between discretionary time and ability to form strong interpersonal relationships and social networks (Mattingly and Bianchi, 2003).

Gender ideology is a significant lens through which individuals understand their roles within relationships as well as structuring their lives as a whole (McHale & Huston, 1984). As such, gender ideology is an important factor in examining lack of “discretionary time,” or “time poverty,” amongst women. For instance, among married couples, husbands with an “egalitarian” understanding of gender roles do more housework and contribute more to childcare than those who hold “traditional” views (Bulanda, 2004). Due to the sharing of family work in the former example, it would be expected for women in such situations to have more discretionary time, or to be less time poor, than women in the latter example of a “traditional” household.

Previous scholarship in gender ideology has focused on one or two measures of unpaid time and finds a relationship between gender attitudes and time spent in housework and primary child care (Davis & Greenstein, 2009). However, to date there are no studies on gender ideology as a possible predictor of women's “time poverty” – a measure that captures deprivation of discretionary time after considering time in paid and unpaid work. Previous studies in time

poverty examine key demographic variables, such as the role of parent or worker, to predict time poverty (McGinnity & Russell, 2007). Attitudes towards “gender roles” can provide a lens through which we can understand the division of paid work and family responsibilities, and the equity of this division when women take on the demands of work, caregiving, and household responsibilities. As such, understanding couples’ beliefs about participating in parenting, employment, and family work has the potential to provide an important avenue by which to understand women’s time use, and how they experience time poverty.

In this chapter I seek to address the gap in time poverty literature vis-à-vis gender ideology amongst couples and its possible association with women’s time poverty. Using data from the second wave of the National Survey of Families and Households (NSFH2), and from the 2003-10 waves of the American Time Use Survey (ATUS), I answer the following research questions: (a) Is there an association between couples’ gender ideologies and women’s time poverty?; (b) Are there differences for couples who agree on gender roles versus couples who do not agree on gender roles? (c) What is the relationship between women’s earnings share and their time poverty? Is there a linear or nonlinear relationship between earnings share and time poverty?

Literature Review

Time Poverty

The literature on time use investigates individuals’ lack of discretionary or leisure time by utilizing the concept of “time poverty.” Time poverty measures insufficient time for rest and leisure, after taking into consideration time spent working (whether paid or unpaid) (Vickery, 1977). Time poverty measures are derived by taking the distribution of time in a particular domain – for example, paid work hours or unpaid work hours – and calculating a cut-off or threshold – for example, fifty percent of the median. When time expenditure is below this cut-off

an individual is classified as time poor. Most time poverty measures are conceptualized as relative measures, because these metrics are created within a particular sample and comparisons are made relative to other individuals. (For a more expanded discussion on time allocation subject to individual resources and choices, see chapter 2's background section).

Gender Ideology

National surveys conducted in the mid-1960s sought to measure the public perception of changes in the “traditional” division of paid work and family responsibilities, where men fulfilled the role of “breadwinner” and women that of “homemaker” (Mason et al. 1976). These surveys attempted to capture what current literature terms as gender ideology: attitudes towards “appropriate” roles for men and women in areas of paid work and household work and family responsibilities. Later cross-sectional and longitudinal surveys measure gender ideologies (or gender attitudes) with questions that seek to ascertain attitudes towards (gendered) notions such as: “the primacy of the breadwinner role,” “male privilege,” “working women,” “gender separate spheres,” “the feminine self,” “motherhood,” and “household work.” Attitudes towards such (gendered) notions brought out by these surveys are representative of what individuals view as the roles expected of men and women in married relationships – and these attitudes in turn affect how people behave within such relationships (McHale & Huston, 1984).

While some scholars have used gender ideology to predict the division of household labor among married couples, other scholars have argued that women's earnings is used to negotiate a more equitable household division of labor. This “bargaining model” predicts a negative relationship between earnings share and time poverty. A wife contributing a smaller share of the couple's earnings is assumed to occupy a weaker position in the household. Thus, women who earn less than their husbands would be expected to be more time poor than women

who earn more than their husbands (Sorenson & McLanahan, 1987; Lundberg & Pollak, 1996).

Additional scholarship, in making use of “gender performance theory,” argues that earnings and time poverty have gender specific meanings. According to this perspective gender inequality is *redistributed*, based on the assumption that family work is not a gender neutral activity: women do not “perform” unpaid work because they have a comparative disadvantage; rather time use patterns are the result of unequal power relations between men and women (Thompson and Walker, 1995). Although the norms of femininity have evolved to include more “masculine” behaviors such as paid labor, a woman’s time expenditure in housework is still considered the essence of being a “good” wife or mother (Riggs, 1997). Childcare and household labor are therefore used to affirm gender identity even within gender-atypical economic circumstances, for which reason married women are more likely to be time poor, or have less discretionary time, even if their share of earnings is unusually high.

More recently, scholars have modified the gender performance approach to include women who are “gender deviant” in one domain and who try to neutralize that “deviance” by exaggerating their gender performance in another domain. That is, if a woman spends a disproportionate amount of time (that is, *more than her husband*) in the “masculine” realm of paid work (and earns more than her spouse) she then tries to counterbalance this by spending more time (relative to her female counterparts who spend proportionately less time in paid work, and earn proportionately less) in fulfilling more “feminine” household responsibilities (Bittman et al., 2003; Greenstein, 2000; Brines, 1994).

Empirical evidence

The primary goal of this study is to determine whether couples’ agreement or disagreement regarding gender roles is associated with women’s time poverty. While there is no empirical work investigating this question, several studies have provided evidence showing that

beliefs held by men and women regarding “gender roles” influences the “rational” planning of their work and family lives (Bulanda, 2004; Kroska, 2004; Corrigall & Konrad, 2007). As such, beliefs regarding gender roles may play a considerable role as far as women’s discretionary time, and whether or not it is sufficient (after time in paid work, household responsibilities, and personal care time are taken into account).

A number of studies have found that a father’s “egalitarian gender attitude” – that is his belief in the equitable distribution of parental responsibilities at home – rather than a mother’s gender ideology, is associated with greater paternal involvement and more time in related childcare activities (Aldous et al., 1998; Bulanda, 2004). However, other studies do not replicate this finding, suggesting that greater paternal involvement may run counter to a woman’s view that family care is primarily a woman’s domain (Marsiglio, 1991; Allen & Hawkins, 1999). In addition, according to one study, a woman’s gender ideology can prevent the husband from being more participatory in household chores – in spite of his inclinations (Greenstein, 1996).

Overall, there is no consensus amongst scholars as to whether women’s or men’s attitudes towards “gender roles” have greater (or lesser) influence as far as the division of household responsibilities (Sanchez & Thomson, 1997). Some scholars conclude that men with more egalitarian attitudes take on a greater share of household labor (Bianchi et al. 2000; Kroska, 2004). Others have argued that wives who hold “traditional views” – the home is a woman’s domain, for example – prevent men’s from participating in household work (Greenstein 1996a). Finally, recent scholarship provides evidence that women “do gender” through household labor and childcare in order to neutralize “gender deviance” in earnings. That is, while women progressively spend less time in household work as their portion of couple income nears equality

to their spouse, they then increase the amount of time spent in household work when their income exceeds that of their spouse (Bittman et al. 2003).

This study examines time poverty – a significant, and yet understudied measure of time deficits. Time poverty measurements seek to capture the deprivation of discretionary or leisure time that results from a disproportionate amount of time spent working – either in the paid labor market or in unpaid domestic work. Past studies on time-use operationalize time poverty as a relative measure. Typically, it represents 50 or 60 percent of the median available hours (after considering time in paid and unpaid work) in a specific population of interest. Individuals with available time below this cut-off are classified as time poor. I examine if a couple's (shared or differing) gender ideology is predictive of a woman's time poverty. In this way, this study extends previous scholarship in gender ideology, which has focused on predicting one or two measures of unpaid time.

I anticipate that women in relationships with shared traditional gender attitudes will exhibit higher time poverty rates than women in relationships with shared egalitarian gender attitudes. I expect women's gender ideology to be the primary predictor of her time poverty. Lastly, it is unclear whether a linear or non-linear relationship exists between earnings share and time poverty. The relationship between earnings share and time poverty is ambiguous because the predictions of bargaining theory and gender performance theory diverge for women who contribute larger shares of couple earnings. Bargaining theory predicts a higher likelihood of time poverty for women with lower earnings share, and a lower likelihood of time poverty for women who earn more than their husbands. Gender performance theory predicts a higher likelihood of time poverty for women at all points in the earnings share distribution.

Data and Methods

Data

Time use data captures detailed information on the daily activities of individuals, including contextual information such as the timing, location, and with whom the activity was performed for a given 24 hour period. To test these empirical questions, I draw upon two data sources, the second wave of the National Survey of Families and Households (NSFH2) and the 2003 through 2010 waves of the American Time Use Survey (ATUS). Although the time diary methodology in the ATUS provides more accurate assessments of time-use than the survey-based questions used in the NSFH (Martini & Shelton, 1993; Bianchi et al., 2000), the NSFH has the virtue of providing information on both gender ideologies of couples and limited hours of time allocation in unpaid work. Time poverty measures described below are applied to both types of data. The virtues and drawbacks of both data are discussed in detail below.

The NSFH2 is a national probability sample survey fielded between 1992 and 1994 which includes information on 10,007 of the original respondents to the NSFH1 (1987-88), including new and existing spouses. In addition to the interview of the main respondent, separate interviews were conducted with the main respondent's spouse or partner. The NSFH2 has interviews with 5,005 married couples. While the data are now nearly fifteen years old and do not have the benefits of a time diary, it remains the best source of information on time allocation for couples as well as measures of key economic and demographic variables thought to be associated with time poverty. The NSFH2 data are appropriate for this investigation because they include items that measure gender ideologies while accounting for other potentially confounding measures. Although the time allocation questions are more crude in NSFH2 and not as accurate as time diary methodologies (Marini & Shelton, 1993; Bianchi et al., 2000), the NSFH2 is widely used in the literature on time use in unpaid work, which can facilitate comparisons

between this and other related work. Lastly, there is a more recent, third wave of the data, but it contains a restricted subset of the sample from the first two waves; only older respondents or parents of focal children in the first two waves are selected for interviews in the third wave.

I impose several restrictions on the data. I confine my analysis to married women who are between the ages of 18 and 65. This limitation reduces the analytic sample from 5,005 married men and women to 2,378 married women. I exclude cohabiting women from this analysis because cohabitation is regarded as a less traditional relationship. Cohabiting men and women have more liberal gender attitudes (Batalova & Cohen, 2002) and these couples may absorb any potential variation in my key independent variable. I next exclude women who did not report on time measures and this exclusion reduces the sample size to 1,197. This large reduction is due to women who did not report on employment hours, time in housework, time in childcare, or a combination of missing reports on more than one time domain. The exclusion is largely because women did not report their employment hours. I examined whether having missing data on employment hours was associated with respondent reports of gender attitudes. I found no relationship between gender attitudes and missing data for women. After excluding 68 women with missing data on covariates the final analysis sample is 1,129 married women.

I also use the 2003-2010 waves of the ATUS, a nationally representative repeated cross-sectional survey of the non-institutionalized population aged 15 and older. Respondents are phone interviewed about their time use two to five months after completing the Current Population Survey (CPS). In the interview, respondents report on their “diary day”, starting at 4 a.m. the previous day and ending at 4 p.m. on the interview day. Respondents report on what they were doing, with whom, for how long, and the location of their activities. The sample consists of interviews on all days of the week and all months of the year. The analyses in this

paper pool all available waves, 2003-2010, obtaining a total sample of 112,038. Response rates were between 50-60% for all waves of data. Previous research on these response rates has shown that busy people are no less likely to respond to the ATUS, but individuals who are weakly integrated in their communities are less likely to respond (Abraham, Maitland, and Bianchi, 2006). The merged data are accessed through the ATUS Extract System and are weighted to adjust for the sample stratification, distribution of diary days, and different response rates across demographic groups and days of the week.

I impose several restrictions on the ATUS sample. Of the 63,351 female respondents, I first limit my sample to the 29,720 married women. I then further restrict the sample to the 26,497 women who are between the age of 18 and 65, because this study focuses on adult women's time use and their family responsibilities. I include only those respondents in couples in which at least one spouse had nonzero earnings, which is required in order to construct women's earnings share. As a result, I then excluded 8,742 female respondents in married couples in which neither spouse had labor market earnings, because they were both unemployed or not in the labor force, and there was missing data on their or their husband's earnings. Nearly all of this missing data on earnings is the result of the ATUS questionnaire design; self-employed respondents are not asked to report their earnings. Of these married women, I excluded 103 women who had missing information on time poverty due to incomplete time diaries. Lastly, I eliminated 709 female respondents who lack complete data on any of the covariates. Over half of these 709 respondents were missing data on their usual hours of work per week. All of the missing data on usual work hours was the result of respondents reporting that their usual hours of work "vary," rather than reporting a number of usual hours. There is no evidence that excluded respondents were more or less time poor than respondents who had complete information. Given

the reasons for missing data, my results are at best generalizable only to respondents who are not self-employed and whose usual work hours do not vary. These sample restrictions yielded an analysis sample of 17,038 married women.

Measures

Time Poverty

In NSFH2, there are limited measures of time allocation and I construct a crude estimate of time poverty using time expenditure in work, housework, and childcare. I further impute sleep hours (see chapter 1 for further discussion on sleep) and personal care time. With respect to market work, I calculate *contracted* time by using measures of usual hours of market work per week (at main or second job and performed at work or at home) for the respondent. For the *committed* time domain, I include assessments of weekly childcare and housework time. I calculate total childcare time as the sum of hours per week spent on five types of childcare: (a) leisure activities, (b) playing or working at home, (c) having private conversations, (d) reading/homework, and (e) watching television or movies. I top-coded the total time spent on childcare activities at the 95th percentile for the analysis sample. Childless women were given zero hours. In order to operationalize housework hours, I combine the total hours respondents report spending on preparing meals, doing dishes, cleaning, shopping, doing laundry, washing, and other household tasks. I exclude respondents who did not provide an answer to three or more of the housework questions. For women who omitted two or fewer items, I set the value to zero hours for the omitted items. If respondents replied to items saying they spent ‘some time’ on the task, I assigned hours to equal one. Additionally, I top-coded housework hours at the 95th percentile. These procedures are standard in the housework literature (South and Spitze, 1994). Lastly, there is no information on *necessary* time in NSFH2, but I assign 8 hours of sleep to the

respondents and 1 hour of personal care time based on average time spent on these personal activities by married women in the ATUS sample. I assign 8 hours, because the recommended level of sleep is 8 hours (National Sleep Foundation, 2002) in fact, the average hours of sleep among married women in ATUS is greater than 8. There is evidence that observed sleep duration in time diaries is on average longer as compared to self-reported sleep times in other population based studies (Patel, Ayas, Malhortra, White, et al., 2004). With respect to personal care time, I examine average time in personal care across all available waves of ATUS (2003-2010) and find minimal differences in personal care time among all waves. One reason to caution against imputing personal care time for women in NSFH2 with the average personal care time from the ATUS is that nearly a decade separates the fielding of these two surveys. Although, it is not intuitive why this time span would cause a dramatic shift in married women's average time in personal care. Additionally, there is no empirical evidence to support this concern.

Previous literature creates a time poverty cut-off, or threshold, by calculating 60% of the median of the population discretionary time distribution (Bittman, 2002; Bardasi & Wodon, 2006; Burchardt, 2008). The threshold is 21.6 hours per week. Those individuals who have discretionary time below this cut-off are deemed time poor, and those at or above the cut-off are not time poor.

In ATUS, I create a measure of time poverty that mirrors, as closely as possible, the measure constructed from the NSFH2 data. The equivalent measure is constructed using minutes per day in contracted and committed time and imputing for sleep and personal care time. The time poverty threshold is 337 discretionary minutes, or 5.6 hours.

Gender Ideology/Earnings Share

The independent variable of interest in the NSFH2 analysis is gender ideology. I construct a measure of gender ideology by using respondents' agree/disagree responses to a four item scale: a) It is much better if the man earns the main living and the woman takes care of the home and family, b) Preschool children are likely to suffer if their mother is employed, c) How much do you approve/disapprove of mothers who work full-time when their youngest child is under age 5?, and d) A husband whose wife is working full-time should spend just as many hours doing housework as his wife. Responses are coded so that higher scores reflect more traditional attitudes (Aldous et al., 1998). Each item is standardized to a mean of 0 and standard deviation of 1, and then summed. I create indicators to distinguish traditional individuals from egalitarian individuals. Individuals who score .5 SD above the mean are coded as traditional, whereas those with scores below this point are coded as egalitarian (Sanchez & Thomson, 1997). Respondents with scores between these two points are classified as neutral. Lastly, I construct a five-category indicator of couple's gender attitudes by combining wives' and husbands' traditional/egalitarian attitudes. This variable indicates the degree of similarity and difference between spouse's gender ideologies.

The main independent variable in the ATUS analysis is earnings share, which is used as a proxy for gender ideology. I use descriptive evidence from NSFH2 to support this proxy (see Appendix Figure 4.1); women in couples with shared egalitarian attitudes have, on average, higher earnings share than women in couples with shared traditional values. This strong correlation between earnings share and gender ideology is also supported by the literature (Stickney & Konrad, 2007; Christie-Mizell et al., 2007). Based on Sorenson and McLanahan's (1987) economic dependency research and recent time use research (Gupta, 2007), I defined earnings share as wives' earnings as a proportion of couples' total earnings. The scale of this

variable ranges from 0 (husband contributes all of couple earnings) to 1 (wife contributes all of couple earnings).

Covariates

Time allocation to paid and unpaid time may be associated with other factors such as presence of children, the age of the youngest child in the household (South and Spitze, 1994), total couple income, usual hours of paid work, age, and race (Shelton and John, 1996). I included indicators for completed education (less than high school, high school, some college, college completion or more). I add these demographic and economic variables to all models.

Analytic Strategy

I examine the association between gender ideology or earnings share and time poverty using logistic regression models. In my first set of analyses, I use the NSFH2 data to estimate models of the relationship between couple's gender attitudes and women's time poverty. I assess the sensitivity of my results to the inclusion of squared terms for earnings share and splitting the sample by parenthood. I examine childless couples and parents separately, because mothers have significantly less discretionary time than childless women, all else being equal. Also, views about egalitarian or traditional notions of family work may operate differently among couples who have child care demands, in addition to other paid and unpaid responsibilities.

Second, shifting from the NSFH2 data, which has direct measures of gender attitudes, I also replicate, as closely as possible, the models using data from the ATUS, a time-diary study of a representative sample of Americans from 2003 to 2010. Although ATUS has no measures of gender ideology, the data have the advantage of a more reliable method for collecting time use data. I regress a linear and squared term for earnings share on women's time poverty, controlling

for relevant economic and demographic variables. I also assess the sensitivity of my results on samples limited to dual-earner couples and full-time workers.

Results

Gender Ideology and Women's Time Poverty in the NSFH2

In Table 4.1, I show basic descriptive information on married women in the NSFH2 sample by couple's shared and differing gender ideologies. Married women in couples who have shared egalitarian attitudes or in which only the husband has egalitarian views have the lowest time poverty rates. Women who share their husband's traditional attitudes or who are alone in their egalitarian views have the highest time poverty rates. These rates offer some support of the hypothesis that husband's attitudes are more relevant than wife's attitudes in regards to time allocation to paid and unpaid work.

In terms of earnings share and income, I find that women in couples who share egalitarian attitudes are more affluent than their counterparts. Women in shared egalitarian couples contribute over two-fifths of couple earnings, have the highest rate of labor force participation, have the highest couple income, and are the most educated compared with women whose partners do not share egalitarian attitudes, or couples with traditional views. Women in couples who share traditional views tend to, on average, contribute the least amount to couple earnings and have the fewest work hours per week. More than half of these women have no more than a high school degree. Lastly, I find that across gender ideologies women have the same rates of childlessness and parents have older children.

In supplemental analyses (using the ATUS), I use the earnings share as a proxy for gender ideology. I do this in part because the descriptive findings discussed in Table 4.1 support

the idea that earnings share and ideology are correlated: higher (or lower) earnings share appears to be correlated with more egalitarian (or traditional) attitudes among couples

To investigate whether these results hold in the multivariate context, in Table 4.2, I examine the relationship between couple's gender attitudes and women's time poverty using logistic regressions. Unlike the descriptive results in Table 4.1, which show preliminary evidence of a correlation between couple's gender attitudes and women's time poverty, the results in Column 1 of Table 4.2 show no evidence that women's time poverty is responsive to couple's gender attitudes. Although the coefficients on shared traditional and egalitarian attitudes are not significant, the direction is in line with my original hypotheses: women in couples in which spouses share traditional views have higher odds of time poverty and women in couples who have shared egalitarian views have lower odds of time poverty as compared to the reference group of women in couples who have neutral-traditional combinations. The coefficients on the variables indicating only one spouse is egalitarian are not significant making it unclear if women's or men's attitudes have the greater influence on women's time poverty. The main focus of these analyses is on shared gender attitudes, but disagreements about spending time in family responsibilities may be a threat to marital stability. It could be the case that women who do not share their husband's traditional attitudes may increase their family work or decrease their employment hours in order to avoid marital conflict. However, we cannot draw any conclusions because the coefficients on differing attitudes are not significant.

In subsequent regressions (Columns 2-4), I try to investigate if a non-linear relationship exists between earnings share and time poverty by including a quadratic term for earning share. Although the coefficients on earnings share are not significant, the direction on the squared term is consistent with gender performance theory. This perspective posits that time in family work is

used to affirm gender identity even in the face of gender-atypical economic circumstances: as married women's earnings share increases, they are more likely to be time poor, or have less discretionary time, even if their earnings share is unusually high. I also examine subgroups of parents and childless couples, because mothers have significantly less discretionary time than childless women, all else being equal. Examining these couples separately does not change the null finding between gender attitudes and earnings share.

With respect to other covariates, work hours and couple income are associated with a higher likelihood of time poverty. The impact of having a child, and in particular when the youngest child in the household is an infant, dwarfs all other coefficients in the model.

Earnings Share and Women's Time Poverty in the ATUS

As a complement to the results presented above, I also conduct similar analyses using the 2003-10 waves of the ATUS, a time-diary study that contains data on repeated representative cross-sections of the U.S. population.

I create a time poverty measure in the ATUS data that matches, as closely as possible, the measure constructed in NSFH2. Time poverty is constructed using minutes per day in paid work, housework, caregiving time, and imputed time in sleep and personal care. I proxy for gender ideology using wife's earnings share, because I do not have data on couples' gender attitudes in the ATUS. I use evidence from NSFH2 to support this proxy (see Appendix Figure 4.1); women in couples with shared egalitarian attitudes have higher earnings share than women in couples with shared traditional values. I also construct covariates that are comparable with the measures used in my analysis of the NSFH2 data. Lastly, I restrict the analysis sample following the same rules as I used in my analysis of the NSFH2 data. I only include married women who were

between the ages of 18 and 65 and had complete data on all covariates. These criteria yield an analysis sample of 17,038 married women.

In Table 4.3 I present descriptive statistics for the ATUS sample. Nearly a quarter of the sample is time poor and, on average, women contribute over a quarter of couple earnings. A vast majority of the married women are White and more than half have some college education. About 60 percent have children, and of these parents, most have school aged children.

In Table 4.3, I divide the sample of married women by their earnings share and examine differences in socio-demographic characteristics by three categories of earnings share. I also find some descriptive evidence to support the hypothesis that earning share and time poverty are positively related. Although, it is unclear if this relationship is linear or quadratic. Married women who contribute at least a quarter of couple earnings have higher couple weekly earnings and are more likely to be college graduates and childless than their counterparts who contribute less than a quarter of couple earnings. Married women who contribute less than a quarter of couple earnings work fewer hours per week, are more likely to be Hispanic, and if they have children, are more likely to have infants than their counterparts who contribute more to couple earnings. These differences raise the question of whether any relationship between earnings share and time poverty may be due to class differences, work hours, or the role of the parent. In the following regression analyses, I control for these class, work and family characteristics in order to isolate the relationship between earnings share and time poverty.

I follow the same methodology as outlined for my analysis of the NSFH2 data to test the relationship between women's time poverty and her earnings share. In Table 4.4, I present a summary of the results of those logistic regressions. As was the case in the NSFH2 data, I do not find any evidence to support the hypothesis that earnings share is related to time poverty. In

Column 1, a few of the associations between the covariates and time poverty are of note.

Increasing usual work hours is associated with a higher likelihood of time poverty. Having no more than a high school degree is associated with a higher likelihood of time poverty. The education association may be driven by the fact that having a high school education or less is associated with lower wages, which in turn make it difficult for women to buy child care or housework from the market. Lastly, childlessness is associated with a lower odds of experiencing time poverty; a coefficient that trumps nearly all other coefficients in the model.

In Column 2, I include a quadratic term to test if there is a non-linear relationship between earnings share and time poverty. The coefficient on earnings share becomes more positive and the squared term indicates a non-linear relationship between earnings share and time poverty; however, these coefficients are not significant. Although the squared term is not significant, the direction of this coefficient (i.e. predicting lower odds of time poverty at higher earnings share) is in line with bargaining theory which argues that women who contribute larger shares of couple earnings have more power and are better able to negotiate their time in unpaid tasks. The direction of the squared term may be driven by the ability of higher earning women to use their own earnings to purchase goods and services in the market to substitute for their own labor (Gupta, 2006).

The last two columns of Table 4.4 focus on dual earners and full-time working women. I conduct these analyses to reduce the influence of work hours on the relationship between earnings share and time poverty and potentially reduce the influence of unobserved characteristics that may be related to both time poverty and earnings share, such as commitment to the labor force. However, these analyses yield similar results as in the full sample.

I also ran supplementary analyses (not shown) to examine other non-linear variants of earnings share and its association with time poverty. I used categorical transformations of earnings share, starting with three groups and increasing to five. I found no evidence to support a nonlinear relationship between earnings share and time poverty. Although the odds of experiencing time poverty increase with higher earnings share, the coefficients on earnings share in each model are not significantly different from each other.

Lastly, I tested to see if there are any differences in the relationship between time poverty and earnings share using another measure of time poverty in the ATUS. This measure of time poverty is more precise, because it takes into account other non-discretionary time, including care of other household adults, travel time, and care of children outside of routine activities (e.g. nighttime care) which were not available in NSFH2. The results of these additional analyses are in Appendix Table 4.1. I find, notably, the coefficient on earnings share is large, positive, and statistically significant, and the squared term is not significant. It appears that the association between earnings share and time poverty is sensitive to the measurement of time poverty but insensitive to how the data was collected (retrospective (NSFH2) vs. time diary (ATUS)).

Discussion and Conclusions

In this paper I examine the relationship between couples' shared and differing gender attitudes and women's experience of time poverty. Gender ideology offers a lens through which men and women view social processes, which in turn affects their behavior. Time poverty is a summary measure of how much discretionary time an individual has, as compared to a population threshold, after considering time in paid and unpaid work. The significance of examining discretionary time deficits lies in the fact that less leisure time is linked to negative health outcomes. Drawing on two sources of nationally representative survey data, the NSFH2

and the ATUS, I find no evidence that women's time poverty is responsive to couple's gender attitudes. This result is robust to subsamples of parents and childless couples and samples of dual-earners and full-time workers. Further, there is consistent evidence in both data sets that the roles of worker and parent are highly associated with experiencing time poverty.

Although gender attitudes and time poverty are not significantly associated, the signs on the coefficients are in line with my original hypotheses: higher odds of time poverty are associated with shared, traditional gender attitudes; and, conversely, lower odds of time poverty are associated with shared, egalitarian gender attitudes. The association between women's earnings share and women's time poverty is also not significant, although there is disagreement across the two data sets on the direction of the squared term on earnings share. I find evidence in NSFH2 that women's time poverty responds to earnings share in the ways predicted by gender performance theory; however, in ATUS I find evidence of bargaining theory. That is, in NSFH2, the squared term indicates higher odds of time poverty, and in ATUS, the squared term predicts lower odds of time poverty.

I propose a few explanations to explain these divergent estimates. One possibility is the result of including gender attitudes, which is strongly correlated to earnings share, in the models using the NSFH2 data. However, replicating the ATUS models with the NSFH2 data (by eliminating the measures of gender ideology) does not change the results in NSFH2 (not presented in tables). Another possibility is that differences in the time period in which the two surveys were fielded might explain the differences. However, it is not intuitive why a difference of approximately 10 years would, for instance, change the relationship between earnings and women's experience of time poverty. What this means is that over the course of a decade, earnings start by having greater "gendered" associations, but, as the years progress, earnings

function as a “bargaining” and/or economic resource – which seems like a dramatic shift in a relatively short period of time. Finally, the divergent estimates could be accounted for by the fact that the two sets of results are not directly comparable given the large differences in sample sizes.

From these analyses it is apparent that the roles of worker and parent have greater implications for women’s time allocation than other factors. The demands of parenting, family work, and employment are high, and, as Spain and Bianchi (1996) have highlighted, women juggle these roles out of preference as well as necessity. The balancing act associated with these roles involves managing and organizing tasks that may be *visible*, but also those tasks that are *invisible*, due to the unaccounted-for-time invested in mental preparation. It is likely that these work-family decisions are made above and beyond any gender attitudes.

Another means of accounting for the null findings may be that gender attitudes cannot explain differences between women who are and are not time poor; however, differences *within* these two groups might be more responsive to gender attitudes. For example, examining whether gender attitudes are related to discretionary minutes among women who are time poor and who are not time poor, separately, may reveal whether gender attitudes are either time costly or beneficial.

The null findings may also be the result of a division of labor between spouses in order to avoid transaction costs. Couples may divide their expenses and household responsibilities (such as childcare, care of other household members, and other family work) by type, and delegate responsibilities and expenses separately to each spouse. These arrangements may be due to convenience or to reduce “transaction costs” associated with decision making rather than gender attitudes about appropriate roles for women (Treas, 1993). Although Treas focused on how

couples organized their finances and reduced their transaction costs, this research suggests that married couples may follow a similar strategy in order to avoid conflicts about time in paid and unpaid work for the family. However, in order to test this hypothesis, an ideal dataset on earnings, expenses, time use, and couples' financial arrangements is needed.

There are potential limitations to this research. Using one panel of a longitudinal survey (NSFH2) could yield biased results as there may be systematic attrition of certain women between the first two waves of the NSFH. Another possible limitation is missing data: the largest reduction in sample size results from missing information on time poverty, and is primarily due to missing data on work hours. In additional analyses (not shown), I find that women who are missing data on work hours systematically have more traditional gender attitudes than women who have complete information on work hours. In future work, I will conduct multiple imputations and investigate any differences in the relationship between gender attitudes and women's time poverty using an imputed data set.

In this paper I endeavored to estimate the relationship between couples' shared and differing gender ideologies and women's time poverty. Future work might explore how this relationship is sensitive to different time poverty measures, as seen in analyses in this paper that use the ATUS. Profiling the characteristics of women who are, or who are not, time poor – depending on the time poverty measure – is an advantageous approach in order to continue to explore the potential relationship between gender attitudes and time poverty.

Table 4.1. Sample Descriptive (Means and Frequencies) by Couple's Gender Ideologies (NSFH-2)

	Married Couples' Gender Ideologies ^a					Other
	Both Traditional	Both Egalitarian	Both Neutral	Husband alone is Egalitarian	Wife alone is egalitarian	
<i>Wife's Characteristics</i>						
Time Poverty Rate ^b (%)	27.9	23.9	21.2	22.2	27.8	24.1
Economic attributes						
Share of couple income ^c (%)	34.4	43.5	40.1	37.7	38.9	34.0
Work Hours	29.4	36.5	28.4	31.8	34.9	30.6
Couple Income (\$)	51892	67152	57699	60403	62138	55214
Demographic Attributes						
Race						
White	83.7	86.2	89.4	83.6	84.9	88.9
Black	6.0	11.0	8.2	13.2	11.3	7.4
Other	10.3	2.8	2.4	3.2	3.8	3.7
Age (years)	43.4 (10.1)	39.4 (8.0)	42.9 (9.7)	42.1 (9.6)	42.6 (9.2)	43.4 (10.0)
Education						
Less than high school	11.6	5.1	2.4	11.1	5.7	14.8
High school degree	45.9	30.1	45.9	39.7	43.9	57.4
Some college	20.2	22.2	27.1	21.2	17.9	20.4
Bachelor's degree or higher	22.3	42.7	24.7	28.0	32.5	7.4
Children's Characteristics						
No Children	47.6	43.8	45.9	47.6	43.9	57.4
Age of youngest child						
Birth to two	5.2	8.7	3.5	3.2	7.1	—
Three to five	9.0	9.8	9.4	7.4	8.5	9.3
Six to seventeen	38.2	37.6	41.2	41.8	40.6	33.3
<i>n</i>	233	356	85	189	212	54

Notes: Standard deviations are presented in parentheses.

^aGender ideology is created using an additive scale composed of respondents' agree/disagree responses to a 4 item scale. a) It is much better if the man earns the main living and the woman takes care of the home and family; b) Preschool children are likely to suffer if their mother is employed; c) How much do you approve/disapprove of mothers who work full-time when their youngest child is under age 5? and d) A husband whose wife is working full-time should spend just as many hours doing housework as his wife. Responses are coded so that higher scores reflect more traditional attitudes (Aldous et al., 1998). Scores are standardized to a mean of 0 and standard deviation of 1, and then summed. I create indicators to distinguish traditional individuals from egalitarian individuals. Individuals who score .5 SD above the mean are coded as traditional, whereas those with scores below this point are coded as egalitarian (Sanchez & Thomson, 1997). Respondents with scores between these two points are classified as neutral.

^bTime Poverty rate is calculated using the residual or discretionary metric.

^cEarnings share is calculated as her earnings/(his earnings + her earnings).

Table 4.2. Odds Ratios from Logistic Regression Models Predicting Married Women's Time Poverty by Couples' Gender Attitudes (NSFH2)

	Linear	Quadratic		
	Full Sample [1]	Full Sample [2]	Parents [3]	Childless [4]
<i>Gender Attitudes^a</i>				
Both traditional	1.10 (0.43)	1.08 (0.42)	1.61 (0.81)	0.45 (0.28)
Both egalitarian	0.64 (0.25)	0.65 (0.25)	0.88 (0.44)	0.46 (0.28)
Both neutral	0.82 (0.38)	0.76 (0.36)	0.85 (0.51)	0.76 (0.56)
Husband egalitarian	0.72 (0.29)	0.73 (0.30)	0.85 (0.44)	0.59 (0.38)
Wife egalitarian	0.83 (0.33)	0.83 (0.33)	1.21 (0.61)	0.39 (0.25)
<i>Economic attributes^a</i>				
Wife's earnings share	0.69 (0.29)	0.11 (0.13)	0.19 (0.28)	0.01 (0.02)
Wife's earnings share squared	—	7.59 (9.60)	4.15 (6.54)	88.36 (212.21)
Wife's work hours	1.07*** (0.01)	1.07*** (0.01)	1.06*** (0.01)	1.10*** (0.02)
Total income (couple)	1.00** (0.00)	1.00* (0.00)	1.00* (0.00)	1.00 (0.00)
<i>Demographic attributes^a</i>				
White	0.58 (0.20)	0.58 (0.20)	0.69 (0.28)	0.22* (0.15)
Black	0.35* (0.14)	0.35* (0.15)	0.35* (0.18)	0.26 (0.20)
Wife's age	1.02 (0.01)	1.01 (0.01)	0.99 (0.02)	1.02 (0.02)
High school	1.05 (0.32)	1.08 (0.32)	0.96 (0.35)	1.48 (0.83)
Some college	0.89 (0.29)	0.88 (0.29)	1.01 (0.39)	0.55 (0.35)
College or more	0.86 (0.28)	0.85 (0.28)	1.04 (0.41)	0.52 (0.35)
<i>Children's attributes^a</i>				
No children	0.17*** (0.03)	0.16*** (0.03)	—	—
<i>Age of youngest child</i>				
Birth to two	2.64** (0.80)	2.63** (0.79)	2.03* (0.64)	—
Three to five	1.29 (0.34)	1.27 (0.33)	1.11 (0.30)	—
<i>N</i>	1129	1129	609	520

Note: Figures shown are odds ratios. Standard errors in parentheses

a. Omitted categories for categorical variables are: Other combinations, other race, less than a high school diploma, and six to seventeen.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4.3. Descriptive Statistics (Means and Frequencies) (ATUS 2003-2010)

	<i>Married Women by Her Share of Couple Earnings</i>			
	All	0 - .25	.25-.49	.50-1
Time Poverty Rate ^a (%)	26.4	12.4	37.0	39.3
Economic attributes				
Share of couple earnings ^b (%)	27.8	4.5	38.6	60.4
Couple weekly earnings (\$ per week)	1509 (901)	1251 (804)	1692 (880)	1768 (981)
Respondent's usual work hours	25.3	7.4	38.7	42.1
Race				
White non-Hispanic	73.7	71.0	76.1	75.6
Black non-Hispanic	6.6	5.2	7.1	8.7
Asian	4.6	4.6	4.0	5.7
Hispanic	15.1	19.1	12.8	10.1
Education				
Less than high school	9.2	13.8	6.9	3.1
High school degree	28.4	30.6	29.5	21.8
Some college	26.3	25.5	28.2	24.9
Bachelor's degree or higher	36.1	30.1	35.4	50.2
Age (years)	41.8 (10.7)	41.9 (11.1)	41.3 (10.3)	42.2 (10.4)
Children's Characteristics				
No Children	41.1	35.5	43.4	49.4
Age of youngest child				
Birth to two	18.3	22.6	15.3	14.1
Three to five	11.0	12.3	10.1	9.5
Six to seventeen	29.6	29.6	31.2	26.9
<i>n</i>	17038	7845	5646	3547

Notes: Standard deviations are in parentheses.

^aTime Poverty rate is calculated using the residual measure.

^bEarnings share is calculated as her earnings/(his earnings + her earnings).

Table 4.4. Odds Ratios from Logistic Regression Models Predicting Married Women's Time Poverty by Wives' Earnings Share (ATUS)

	Linear	Quadratic		
	Full Sample [1]	Full Sample [2]	Dual Earners [3]	Full-time Workers [4]
<i>Economic attributes</i>				
Earnings share ^a	1.07 (0.20)	1.88 (1.01)	1.76 (0.95)	1.96 (1.93)
Earnings share squared	—	0.52 (0.31)	0.50 (0.29)	0.50 (0.53)
Total couple earnings	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)
Respondent's usual work hours	1.05*** (0.00)	1.05*** (0.00)	1.04*** (0.00)	1.05*** (0.01)
<i>Demographic attributes^b</i>				
Black non-Hispanic	0.87 (0.09)	0.87 (0.09)	0.84** (0.07)	0.87 (0.10)
Asian	1.50*** (0.19)	1.49*** (0.19)	1.37*** (0.14)	1.53*** (0.25)
Hispanic	1.12 (0.09)	1.12 (0.09)	1.11 (0.08)	1.08 (0.11)
Less than high school	1.57*** (0.19)	1.57*** (0.19)	1.39*** (0.16)	1.74*** (0.31)
High school degree	1.19** (0.09)	1.18** (0.08)	1.14** (0.07)	1.25** (0.11)
Some college	1.07 (0.07)	1.07 (0.07)	1.07 (0.06)	1.12 (0.09)
Age (years)	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)	1.01 (0.00)
<i>Children's attributes^b</i>				
No Children	0.57*** (0.04)	0.57*** (0.04)	0.62*** (0.03)	0.63*** (0.05)
Age of youngest child				
Birth to two	0.97 (0.07)	0.97 (0.07)	0.99 (0.07)	1.00 (0.09)
Three to five	1.19** (0.09)	1.19** (0.09)	1.22*** (0.08)	1.34*** (0.13)
<i>n</i>	17,038	17,038	11,340	7,748

Note: Figures shown are odds ratios. Standard errors in parentheses.

^aEarnings share is calculated as her earnings/(his earnings + her earnings).

^bOmitted categories for categorical variables are: white, college or more, and six to seventeen.

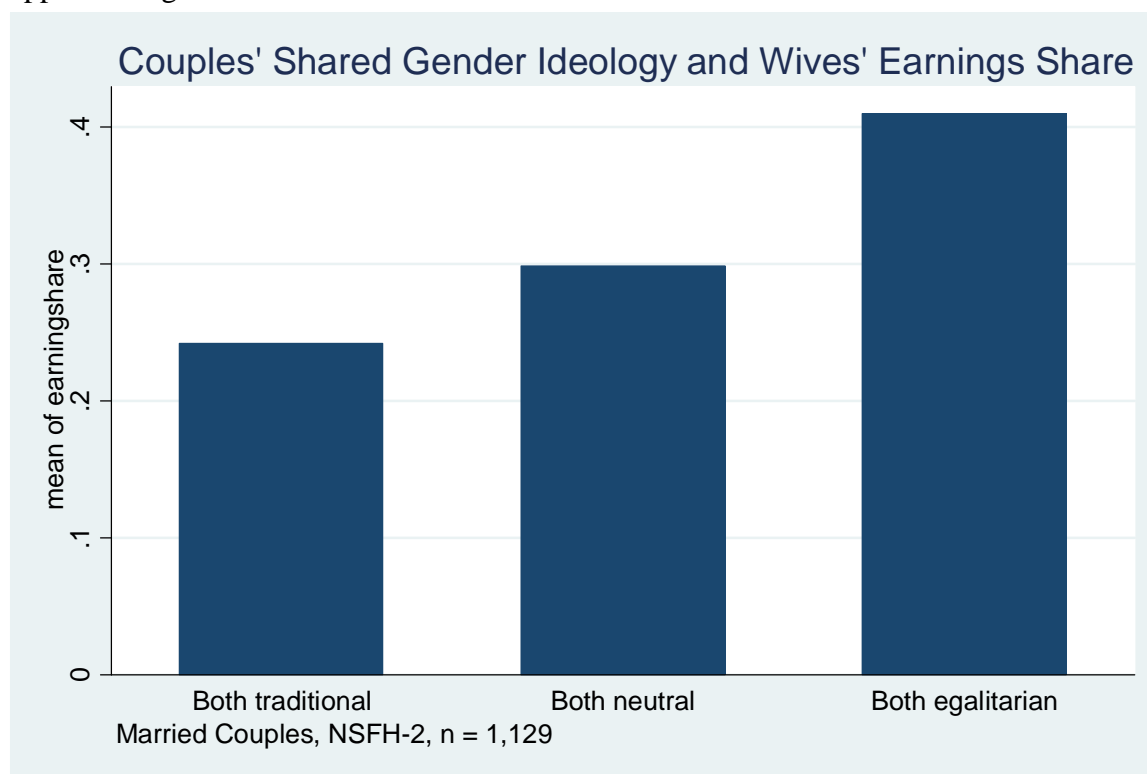
Appendix Table 4.1. Odds Ratios from Logistic Regression Models Predicting Women's Time Poverty^a (ATUS)

	Linear	Quadratic
<i>Economic attributes</i>		
Earnings share ^b	1.37* (0.26)	3.07** (1.65)
Earnings share squared	—	0.39 (0.23)
Total couple earnings	1.00 (0.00)	1.00 (0.00)
Respondent's usual work hours	1.05*** (0.00)	1.04*** (0.00)
<i>Demographic attributes^c</i>		
Black non-Hispanic	1.01 (0.10)	1.01 (0.10)
Asian	1.56*** (0.19)	1.56*** (0.19)
Hispanic	0.98 (0.08)	0.98 (0.08)
Less than high school	1.26* (0.16)	1.25* (0.15)
High school degree	1.15** (0.08)	1.14* (0.08)
Some college	1.08 (0.07)	1.07 (0.07)
Age (years)	1.01** (0.00)	1.01** (0.00)
<i>Children's attributes^c</i>		
No Children	0.69*** (0.04)	0.69*** (0.04)
Age of youngest child		
Birth to two	1.65*** (0.12)	1.65*** (0.12)
Three to five	1.42*** (0.10)	1.42*** (0.10)
<i>n</i>	16,935	16,935

Note: Figures shown are odds ratios. Standard errors in parentheses. ^aTime poverty is measured by subtracting minutes in work, housework, child care, other family caregiving, personal care, and sleep from 24 hours. ^bEarnings share is calculated as her earnings/(his earnings + her earnings). ^cOmitted categories for categorical variables are: white, college or more, and six to seventeen.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Figure 4.1



Chapter 5: Conclusion

In this dissertation, I examined time poverty measures and explored the association between time poverty and family structure. I also explored the association between couple's gender ideologies and women's time poverty. This dissertation extends the time poverty literature in a number of ways. It is the first study to compare time poverty measures and adjudicate among these measures. This research is the first study to focus on the experience of women and examine differences in time poverty rates by family structure. Additionally, this dissertation is the first to investigate the extent of time poverty among time poor mothers and to scrutinize these discretionary time deficits by family structure.

In this concluding chapter, I summarize the main findings of each chapter and discuss implications for social policy research

In *Chapter 2*, I constructed three time poverty measures and found minimal differences in rates of time poverty by family structure using these measures. The results are suggestive of the near equality among measures. I use a residual measure for further analyses in this dissertation, because this measure is easily understandable in describing individual's lack of discretionary time. Using this measure, I find a few notable results. Mothers with infants are marked by the highest time poverty rates, as compared to mothers of children aged 3 and over—the time poverty rate is nearly forty percent among these mothers (whether married, previously married, or single). Although simultaneous roles of worker and parent yield higher time poverty rates compared to employed women who are childless, there are minimal differences in time poverty rates across family structure. Women in the middle-income quintiles suffer from the highest time poverty rates across family structure; although differences in time poverty rates by quintiles vanish after conditioning on full-time employment.

In *Chapter 3*, I focus on time poor mothers in order to understand the extent of their time poverty. In this chapter, I examine heterogeneity in discretionary time deficits among all time poor mothers by family structure. In analyses that focus on single mothers (that is, mothers who are not married or cohabiting with a partner), I examine these time deficits by their extended household living arrangements. I show that full-time working mothers have the highest median discretionary time deficits as compared to part-time working mothers. Among full-time working mothers, there is no evidence of family structure differences in discretionary time deficits. Among full-time working mothers in the bottom income quintile, single mothers have the highest discretionary time deficits as compared to their married or cohabiting mothers. Among single mothers who work full-time, the presence of another adult who is employed appears to operate as a facilitating factor by reducing time deficits.

In *Chapter 4*, I have the opportunity to use two time-use datasets, NSFH2 and ATUS, each of which has their own virtues and weaknesses. In NSFH2, I investigate the relationship between women's experience of time poverty and couple's shared and differing gender ideologies. In the ATUS, I proxy for gender ideology using women's earnings share. I find no relationship between couple's gender ideologies and women's time poverty. This null finding is robust in subsamples of parents and childless couples. I also find no evidence that women's earnings share is related to her time poverty. This null result is robust in subsamples of dual-earners and full-time workers. Further, there is consistent evidence in both data sets that the roles of worker and parent are highly associated with experiencing time poverty.

Policy Implications

The findings from this dissertation suggest the roles of worker and parent are the most salient predictors of time poverty. A central consideration for policymakers is to address the time

constraints faced by working parents, irrespective of family structure. Family policy researchers suggest addressing work-family dilemmas through work facilitating supports and income supplements (Jacobs & Gerson, 2004).

One type of work-facilitating reform is community-based and employer provided child care supports. The availability of high quality child care provides mothers the opportunity to return to work after the birth of a child, to increase work hours, and to potentially contribute to economic growth (Klerman & Leibowitz, 1992). In developing a child care agenda, policy makers need to consider not only the quality of care, but the affordability of care for low-income families. Due to strict limits on government supports for poor mothers and their children, children in poor families are more likely to be cared for by informal caregivers, who are not regulated. Childcare support, either in subsidies for informal childcare providers or expanding employer provided supports or a universal program, needs to address parents who face a range of challenges and contend with different economic resources.

Another approach to reduce work-family conflict is to provide income supports to those in need (Ehrenreich, 2002). For some working families near the bottom of the income distribution, especially single parent households, two or more jobs are required to achieve a decent standard of living. These low-income families along with other workers, who may have moderate to high paying jobs, seek a balance between work and family time. Income supports help these families achieve this balance by providing extra income to earn a decent standard of living, or to avoid poverty, at the minimum. Some policy options include a living wage or providing an earned income tax credit for jobs with severely low wages. Either or both options can potentially increase incomes for those who are poorly paid or work multiple jobs.

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